

DRAFT
ENVIRONMENTAL STATEMENT

NORTH POINT PARK/MARINA
CITY AND COUNTY OF SAN FRANCISCO

REGULATORY PERMIT APPLICATIONS
BY
WATERFRONT RECREATION FACILITIES, INC.

DOCUMENTED PERMIT

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SPNED-E/SPNCO-R
PN 10745-48

15 December, 1976

TO WHOM IT MAY CONCERN:

The San Francisco District, U.S. Army Engineers, is reviewing a permit application made by Waterfront Recreation Facilities, Inc to develop a major commercial/recreational complex at the northern waterfront in the City and County of San Francisco, California.

In response to the provisions of the National Environmental Policy Act of 1969, Public Law 91-190, to protect and enhance the quality of the human environment, the San Francisco District has prepared a Draft Environmental Statement.

The District is soliciting comments and views of appropriate government agencies and interested groups and individuals on the inclosed draft statement. Submission of comments within 45 days would be appreciated so that our final statement can more fully reflect your views.

Sincerely yours,

for

H. A. FLERTZHEIM, JR.
Colonel, CE
District Engineer

1 Incl
As stated

H. A. Flertzheim, Jr.

District Engineer



SUMMARY

NORTH POINT PARK/MARINA
SAN FRANCISCO COUNTY, CALIFORNIA

REGULATORY PERMIT APPLICATION
BY WATERFRONT RECREATION FACILITIES, INC.

(X) DRAFT ENVIRONMENTAL STATEMENT () FINAL ENVIRONMENTAL STATEMENT

Responsible Office: District Engineer
U.S. Army Engineer District, San Francisco
211 Main Street
San Francisco, CA 941 5
(415) 556-3660

1. Name of Action: (X) Administrative () Legislative

2. Description of Action: Developing a major commercial/recreational complex of restaurants, retail shops, marina, parking garage, and open space/park areas at the Port of San Francisco's northern waterfront adjacent to and including Piers 37, 39, and 41.

3. a. Environmental Impacts: Change in land use from maritime to non-maritime activity; increase in pedestrian and vehicular traffic; changes in air and water quality; and change in noise levels.

b. Adverse Environmental Effects: Increased local traffic; increased sedimentation from the construction of breakwaters; air, water, and noise pollution; and increased use of natural resources.

4. Alternatives: Permit denial; smaller project; development according to the Bay Conservation and Development Commission Special Area Plan; development according to the San Francisco Northern Waterfront Plan; and development of the entire site as open space.

5. Comments Requested:

U.S. Senator Alan Cranston
U.S. Senator John Tunney
U.S. Representative John Burton
U.S. Representative Phillip Burton
U.S. Department of Agriculture
Forest Service
Soil Conservation Service
Western Technical Services Center
U.S. Department of Commerce
U.S. Department of Health, Education, and Welfare

U.S. Department of Housing and Urban Development
U.S. Department of the Interior
U.S. Department of the Navy
U.S. Department of Transportation
Coast Guard
U.S. Environmental Protection Agency
Federal Energy Administration

State Senator Milton Marks
State Assemblyman Leo McCarthy
Association of Bay Area Governments
Bay Area Air Pollution Control District
Bay Area Sewage Services Agency
Metropolitan Transportation Agency
Office of Planning and Research
San Francisco Bay Conservation and Development
Commission
State Water Resources Control Board, San Francisco Bay Region
County and City of San Francisco
Department of City Planning
San Francisco Port Commission

Associated Sportsmen of California
Audubon Society
Golden Gate Audubon Society
California Chamber of Commerce
California Institute of Man in Nature
California Marine Affairs and Navigation Conference
California Tomorrow
California Trout
California Waterfowl Association
California Wildlife Federation
Environmental Defense Fund
Environmental Information Center
Friends of the Earth
Isaak Walton League of America, Inc.
League of California Cities
League of Women Voters of San Francisco
Natural Resources Defense Council
Oceanic Society
Planning and Conservation League
San Francisco Bay Planning and Urban Renewal Association
Save San Francisco Bay Association
Sierra Club
Loma Prieta Chapter
San Francisco Bay Chapter

Society for California Archaeology
Trout Unlimited

Center for Environmental Quality Management, Cornell
University
Environmental Design Librarian, University of California
Center of Urban Affairs, Northwestern University
Water Resources Center Archives, University of California
San Francisco Public Library

The Atchison, Topeka, and Santa Fe Railway Company
Harbor Carriers, Inc.
Downtown Association of San Francisco
Two Individuals

6 Draft Statement to CEQ: 15 Dec. 1976.
Final Statement to CEQ: _____.



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DRAFT
ENVIRONMENTAL STATEMENT

NORTH POINT PARK/MARINA
CITY AND COUNTY OF SAN FRANCISCO

REGULATORY PERMIT APPLICATION BY
WATERFRONT RECREATION FACILITIES, INC.

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DRAFT ENVIRONMENTAL STATEMENT

NORTH POINT PARK/MARINA
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA
REGULATORY PERMIT APPLICATION
BY
WATERFRONT RECREATION FACILITIES, INC.

1.00. PROJECT DESCRIPTION

1.01. Proposed Project. Waterfront Recreation Facilities, Inc., San Francisco, California, has applied for a Department of the Army permit to develop a major commercial/recreational complex consisting of restaurants, retail shops, marina, parking garage, and open space/park areas at the Port of San Francisco's northern waterfront adjacent to and including Piers 37, 39, and 41. The letter of application can be found as Document A-1 in Appendix A.

1.02. The San Francisco Department of City Planning prepared a document for the applicant titled "Final Environmental Impact for Proposed North Point Park/Marina, San Francisco, California." This Draft Environmental Statement will refer to the Department of City Planning document included as Appendix B.



SITE PLAN (SEE FIGURE 4, APPENDIX B
FOR COMPLETE MAP)

1.03. The project site is located at the Embarcadero between Kearny Street and Powell Street, including Seawall Lots 311 and 312 north of Beach Street. See Plate 1 for the regional location and Figure 4, Appendix B for the site plan.

1.04. Authority. The Army's authority over these lands is based upon Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. Sec. 403, which prohibits the unauthorized obstruction or alteration of any navigable waters of the United States. The construction of any structure in or over any navigable waters of the United States, the excavation from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of any such water are unlawful unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army.

1.05. The Army's authority over these lands was modified by 33 U.S.C. 59h, which declared the Northern Embarcadero Area in San Francisco to be non-navigable waters of the United States. This statute applies only to those portions of the area which are bulkheaded and filled or are occupied by permanent pile-supported structures. While no regulatory permit is required for activities in the area defined by Section 59h, plans for bulkheading and filling and permanent pile-supported structures shall be approved by the Secretary of the Army, acting through the Chief of Engineers. This plan approval shall be based on engineering studies to determine the location and structural stability of the proposed work in order to preserve and maintain the remaining navigable waterway. These studies are presently underway at the San Francisco District.

1.06. In response to the provisions of the National Environmental Policy Act of 1969, Public Law 91-190, 42 U.S.C. Sec. 4332, an evaluation of the impacts of a proposed activity on all aspects of the quality of the human environment is required prior to a permit application being considered for approval. This Environmental Statement addresses such an evaluation of the proposed North Point Park/Marina.

1.07. Additional Regulatory Requirements. In addition to a Department of the Army permit, the proposed activity requires approval or certification from the Port of San Francisco, City and County of San Francisco, San Francisco Bay Conservation and Development Commission (BCDC), and the California Regional Water Quality Control Board (CRWQCB).

1.08. The Port Commission has the power to administer, develop, and lease Port property with the condition that non-maritime development yield a maximum financial return to support the Port's maritime development. Paragraph 3.06 discusses the Port's Master Plan. On 10 September 1975, the Port Commission approved a Development Agreement with the applicant. No later than 24 months from the date of the agreement a 60-year lease would be granted by the Port to the applicant for the subject property. Subsequently, the Port Commission has extended the time limit to allow the applicant to obtain all necessary permits.

1.09. By City Charter, non-maritime uses of Port property are subject to the City's land-use controls as administered by the Department of City Planning. Paragraph 3.05 discusses the City's Comprehensive Plan. Any non-maritime uses of Port property would require a Conditional Approval by the City Planning Commission. Currently the proposed activity is under study by the Northern Waterfront Planning Staff.

1.10. On 17 April 1975 BCDC adopted "Special Area Plan No. 1: San Francisco Waterfront" (see paragraph 3.04). BCDC has jurisdiction over shoreline areas, including piers, located within 100 feet of the Bay from the line of highest tidal action. Application for the proposed activity is currently under consideration by BCDC.

1.11. An application for a Discharge Certification has been submitted to the CRWQCB.

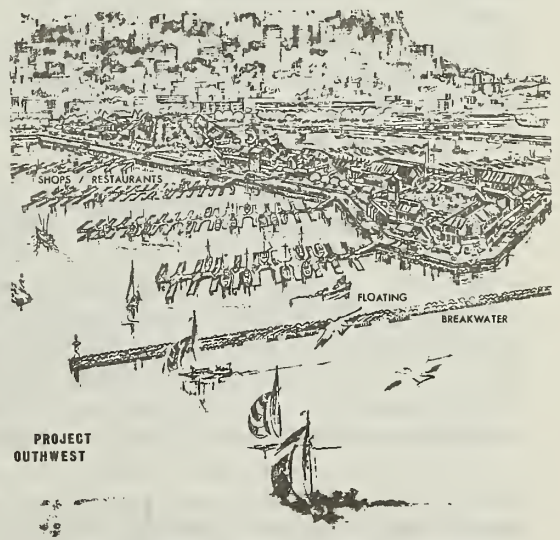
1.12. Project History. The development of this portion of the San Francisco waterfront began in the middle of the nineteenth century. Reclamation started with the construction of the original seawall about 1869, which was later deemed inadequate due to an accumulation of sediment from wave action in San Francisco Bay. This led to the construction in 1880 of the present seawall, built to conform to the general directions of the bay currents. The locations of the shoreline in 1852, the 1869 seawall, and the present seawall are shown in Figure 14, Appendix B.

1.13. Between 1880 and 1920 San Francisco was the leading port in Northern California for both fishing and maritime activities. However, as transportation linkages grew and fishing and cargo-handling techniques improved in other areas of the State, the importance of San Francisco's port facilities declined (Department of the Army, 1976). As ships grew in size the piers along the waterfront became unsuitable for berthing and handling cargo, and the development of containerization further decreased the waterfront's importance.

1.14. At present the piers in the area are underutilized, many being used as warehouses and parking garages, with little actual maritime-oriented uses. The Fisherman's Wharf area is still used for fishing operations, including processing and boat mooring. On 10 September 1976, the Port Commission approved a Development Agreement with the applicant for development of Piers 37, 39, and 41. However, Pier 37 was recently destroyed by fire.

1.15. Project Details. The proposed project would contain the following:

1.16. Development. Pier 37, which was recently destroyed by a fire, would have part of the waterfront park built upon a salvaged section of it. Pier 39 would include a total of 200,000 square feet of new retail commercial development, of which 133,000 square feet would be food service facilities and 67,000 square feet would be small retail shops and other commercial recreation such as theaters, small amusement rides, exhibits, and artisans at work. All of Pier 41 would be removed to make room for a fixed breakwater, which would be 1,190 feet long and 40 feet wide. It would provide for public fishing and walking activities.



PROJECT RENDERING (SEE FIGURE 10, APPENDIX B FOR THE COMPLETE RENDERING)

1.17. All structures, to the greatest extent possible, would be built with wood salvaged from demolition of the structures on Pier 39 to emphasize the maritime character of the site. Because old lumber on Pier 37 was destroyed in a fire, the applicant is currently negotiating with the Port of San Francisco to obtain lumber from other surplus piers.

1.18. The restaurants and shops would be a combination of one- and two-story structures, built on two levels. The pedestrian walkway around Pier 39 would be about four feet lower than the present deck level of the pier. A "people mover" system would use the lower level to facilitate the movement of people along the length of the pier.

1.19. Public park area and open space. A major component of the project is the waterfront park, which would extend along the bulkhead of the southeastern edge of Pier 37 to the midpoint of Pier 41. The total size of the park would depend on whether the Embarcadero were closed or open, meaning 5.4 or 4.2 acres respectively. Total open space would be 8.8 or 7.6 acres respectively, including the pedestrian walkway around Pier 39.

1.20. Marina. Berthing facilities for approximately 50 sport-fishing boats would be provided to the west of Pier 39, and a small-boat marina for 250 boats would be provided to the east of the pier. Electricity, water, and sanitation facilities would be provided, as well as a bait shop for sportfishermen. Boat slips would be treated wood-frame or other construction with concrete, fiberglass, or plastic flotation and would be stabilized against horizontal movement by concrete or timber piles driven into the bottom. Piles would be placed at about every fourth slip. The main walkways would be equipped with lighting, telephone connections, and small storage lockers. Sewage pump-out facilities would be provided to service the boats' waste-holding tanks.



PROJECT RENDERING (SEE FIGURE 9, APPENDIX B FOR COMPLETE DRAWING)



PROJECT RENDERING (SEE FIGURE 8, APPENDIX B FOR COMPLETE DRAWING)

1.21. Breakwater protection. A solid, fixed 40-foot wide breakwater parallel to Pier 41 would extend bayward about 740 feet and then eastward at a right angle for approximately 450 feet. This partly-permeable breakwater (see Figure 11, Appendix B) would attenuate the deep ocean swell that passes through the Golden Gate. The remainder of the berthing areas would be protected by floating breakwaters designed to attenuate short-period waves generated within San Francisco Bay.

1.22. Parking facilities. A parking garage would be constructed on Seawall Lot 311 with a maximum height of 40 feet which would provide parking for 1,000 cars. Harbor Carriers, Inc. and the Golden Gate Scenic Steamship Lines will be allotted 150 of these spaces, as required by the contract agreement with the Port of San Francisco. The garage would also include an additional 3,500 square feet of commercial, office, and service facilities for management and employees of the project area on the north side of the structure. The use of concrete would be minimized as much as possible by using heavy wooden guardrails. The horizontal slabs would be concrete and the vertical elements would be wood, wherever possible.

1.23. Existing site uses to remain. The Eagle's Cafe, the Crow's Nest Cafe, and the Sea Habitat Development are within the project area and are under separate lease to the Port. Upon the termination of the present leases, negotiations for continued occupancy with the applicant would be necessary. It is also possible that the submarine Pompanito, currently being acquired by the San Francisco Maritime Museum, and the oil skimmer Recoverer, operated by the Crowley Interests, would be berthed within the project area, depending on negotiations with the applicant.

1.24. Construction scheduling. The estimated cost of the project is \$20,000,000, which includes the construction of the breakwaters and the park. Construction of the entire project would take from one to two years.

1.25. Compatibility and Interrelationship of the Project with Existing or Proposed Corps or Other Agency Project. The California State Department of Parks and Recreation was granted a permit for maintenance dredging of approximately 9,500 cubic yards in San Francisco Bay at the San Francisco Maritime State Historic Park, Hyde Street Pier (P/N 74-97-116). The purpose of this dredging was to remove the bottom sediment which had accumulated to a depth that prevented the historic ships berthed there from remaining free-floating. The Pier is located several blocks to the west of the proposed project. See Document A-2, Appendix A for details.

1.26. The Corps granted a permit to the Port of San Francisco for maintenance dredging along the San Francisco waterfront from Aquatic Park to India Basin (P/N 74-165-135). Approximately 500,000 cubic yards of material were removed by clamshell dredge. The dredge material was disposed of at the authorized Alcatraz disposal site. See Document A-3, Appendix A for details.

1.27. The Corps recently granted a permit to Harbor carriers, Inc. to construct a passenger landing adjacent to Pier 41 (P/N 10690-48). The structure would be a 750-square foot floating dock attached to three dolphins, each consisting of six treated wood piles. Four additional piles would be driven to support the proposed walkway, which would be connected by a wheeled steel ramp to the floating dock. See Document A-4, Appendix A for details. No provision has been made in the North Point Park/Marina project for accommodating the landing.

1.28. A project to construct a breakwater at Fisherman's Wharf is currently under evaluation by the Corps of Engineers. The project would consist of a concrete sheet pile and baffled structure 1,900 feet long (a 700-foot portion extending north from the Hyde Street Pier and a 1,200-foot portion extending north), enclosing an area of 27 acres between the Hyde Street Pier and Pier 45. A 370-foot concrete pile and baffled breakwater would be attached to Pier 45 at its bayward end. A reinforced concrete cap section with a 10-foot walkway for pier fishing would be provided on top of the breakwater from the Hyde Street Pier. The project would accommodate 345 berths for commercial fishing boats, which would be protected from wave action from ocean swells and local storms by the breakwater.

1.29. The San Francisco Port Commission has applied for a Department of the Army permit to improve the Fisherman's Wharf Harbor in conjunction with the breakwater study being performed by the Corps. The project would be either a one- or two-phase development, involving demolition of the condemned portion of the Hyde Street Pier, construction of a new pier, and refurbishing and constructing 520 boat berths, as well as providing for other harbor support facilities.

1.30. Proposed Fish and Wildlife Mitigation. The applicant has proposed no fish and wildlife mitigation measures for the proposed project.

2.00. ENVIRONMENTAL SETTING WITHOUT THE PROJECT

Physical Environment

2.01. Geology and soils. The ground surface, landward of the bulkhead wall, is essentially level with an elevation of approximately +13 feet mean lower low water (MLLW), similar to the top of the decks of Piers 37, 39, and 41.

2.02. On the landward side of the project area the surficial deposits consist of artificial fill 25 to 35 feet thick. The fill consists mainly of fine- to medium-grained sands, with occasional rock fragments, and rock or rubble fills. The sands are dense to very dense and are considered to be part of the Colma Formation and are probably Pleistocene in age. The fill material is retained by a rock-fill seawall (Page 36, Appendix B).

2.03. A soft compressible silty clay, known locally as "Bay Mud," lies below the fill material and sea wall and extends bayward. Below the "Bay Mud" boring logs indicate firm soils, consisting primarily of medium dense to dense sandy soils with some interbedded clays.

2.04. Offshore, fill is not present and "Bay Mud" exists down to elevation -33 to -45 feet. Boring logs indicate that the firm soils below recent deposits consist primarily of dense sand and thick clay layers.

2.05. The material overlying bedrock is approximately 70 feet thick and is considered to be composed of Quarternary sediments, made up of clays, silts, and sands. Franciscan bedrock, consisting of graywacke sandstone and shale is located below elevation -100 feet. The bedrock surface is quite irregular.

2.06. Seismicity. The major active faults nearest the site are the northwesterly trending San Andreas and Hayward faults. The San Andreas Fault is approximately 10 miles west of the project site, while the Hayward Fault is approximately 15 miles east of the site. A compilation of earthquake records for the area can be found on page 40, Appendix B.

2.07. Faults considered inactive have also been mapped or inferred west and south of the site; they include the San Bruno, Hillside, and City College faults. No evidence of surface faulting has been reported within several miles of the proposed development.

Oceanography

2.08. Waves. There are primarily two types of waves affecting the project area: long-period ocean swells transmitted through the Golden Gate and short-period wind-generated waves within San Francisco Bay. In addition, occasional boat-wake waves from passing vessels infringe on the area. Also, the area occasionally experiences a tsunami, which can propagate through the Golden Gate and into the Bay.

2.09. The long-period ocean swell, coming from the west, has a period of eight to ten seconds, and varies in height from one-half to three feet. Assuming a depth of 30 feet at the site, these waves are estimated to have a wave length ranging from 225 to 292 feet.

2.10. Short-period wind-generated waves at the site are estimated to range in height from 2.5 to 4.4 feet and have periods ranging from 2.8 to 3.7 seconds. The highest longest-period waves would be generated along the five-mile NNW fetch* for a 40-miles-per-hour wind (the most probable maximum wind velocity from the NNW).

2.11. Waves are continually being generated by large vessels, such as tankers and cargo carriers, traveling at five to six knots (Sorenson, 1967). The highest wave measured during Sorenson's study was 2.6 feet high and occurred 100 feet from a 100-foot tugboat traveling at 12.3 knots.

2.12. Tsunamis are very long period waves caused by underwater disturbances, such as volcanic activity, earthquakes, or landslides. These waves occur irregularly in the Pacific Ocean Basin. The last major tsunami to affect San Francisco Bay was in March 1964, and it caused about \$200,000 worth of damage in the Bay. The maximum height of this wave at the Golden Gate Bridge was 7.4 feet.

2.13. Tides. Using lower low water datum, the estimated highest water at the site is 8.5 feet and the estimated lowest water is -2.5 feet.

2.14. Currents. Current patterns at the site depend mainly on the ocean tides that control water movement in the central portion of San Francisco Bay. Mass water movement is parallel to the shoreline through the channel between North Point and Alcatraz.

2.15. The maximum flood and ebb current velocities near the project site are approximately 2.1 and 2.7 knots respectively, with the flood water originating from ocean sources outside the bay and ebb waters emanating entirely from the South Bay Region.

* The uninterrupted distance travelled by an ocean wave.

2.16. Sedimentation. Sedimentation rates vary according to current patterns and the presence of obstructions. Estimates provided the applicant indicate that the sedimentation rates within the confines of the project site are one-half to one foot per year, with more rapid deposition near the bulkhead where the current is at a minimum.

Water quality.

2.17. A main factor influencing the quality of water at the project site is its close proximity to the North Point Water Pollution Control Plant sewage outfalls. This plant now provides primary treatment for a daily average dry-weather flow of 65 million gallons (mgd). The dry-weather effluent is discharged through four 48-inch-diameter cast-iron outfalls terminating 800 feet offshore. When rainfall exceeds the rate of 0.1 inch/hour in the North Point drainage district, diversion structures route an untreated mixture of sanitary and storm sewage through wet-weather bypass outfalls that discharge directly into the Bay. The wet-weather discharges occur, on the average, 82 times per year. Under wet-weather conditions the dry-weather outfalls still continue to discharge primary treated sewage up to their maximum total capacity of 67.8 mgd.

2.18. One of the wet-weather bypass outfalls, having a six-foot by seven-foot cross section, extends 20 feet beyond the bulkhead line between Piers 37 and 39, discharging directly into the project site.

2.19. According to analysis of the chemical characteristics of the wastewater effluent discharged through the dry-weather outfalls beneath Piers 33 and 35, the measured five-day biochemical oxygen demand (BOD₅) of the effluent ranged from 46 to 144 milligrams per liter (mg/l) during the first six months of 1975. The dissolved oxygen (DO) content of the effluent during that same period ranged from 2.7 to 7.5 mg/l (Page 52, Appendix B).

2.20. The minimum acceptable level of DO concentration in receiving waters has been established at 5 mg/l by the Regional Water Quality Control Board. Strong tidal currents, unimpeded by any structures that might create areas of stagnation, flush the nearshore waters with near-saturation ocean water. For this reason, and because of the initial dilution capability of the sewage outfalls, the waters near the project site have satisfactory DO levels on dry-weather days.

2.21. Climate. San Francisco's climate is dominated by the sea breeze characteristic of marine climates. As a result of this steady stream of marine air, there are few extremes of heat or cold. Temperatures exceed 90°F on an average of once a year and drop below freezing less than once a year. The warmest month is September, with an average daily maximum of 69°F; the coldest is January, with an average daily maximum of 56°F.

2.22. Winds in San Francisco are generally from a westerly direction and are present from May to August. During the rainy period, however (October to April), the strongest winds flow from the south, as well as from the west and northwest.

2.23. The project site is located at the extreme north end of the San Francisco Peninsula. Its location immediately downwind of the Golden Gate and the lack of upwind obstructions cause winds at the site to be generally higher than in most areas of San Francisco. Results of wind tunnel tests by the applicant show that the site is relatively exposed to winds off the Bay. Wind speeds were generally moderate to moderately high. Near waterfront structures winds were low but turbulent. Winds between the piers were found to be higher, especially near the water's edge.

Air quality (see Appendix C).

2.24. In 1974, for the City of San Francisco, the oxidant standard was exceeded on four days in October, the carbon monoxide standard was exceeded on two days in January, and the nitrogen dioxide standard was not exceeded.

2.25. Estimates of existing carbon monoxide concentrations have been calculated under adverse meteorological conditions on or near the Embarcadero, the area of heaviest traffic near the site. Estimated concentrations are 6.5 parts per million (ppm) and 1.5 ppm for one- and eight-hour averaging times, respectively. The corresponding Federal ambient air quality standards are 35 and 9 ppm, respectively.

2.26. In order to realize significant, long-term controls over air pollution problems, it is necessary to evaluate an individual project's impact on a region-wide scale and in terms of cumulative effects. The Clean Air Act Amendments of 1970 require that all States submit an Implementation Plan to the U.S. Environmental Protection Agency (EPA), explaining control strategy which will be used to attain and maintain ambient Air Quality Standards. These Implementation Plans are the vehicles for drawing together a region's air quality planning efforts. Elements of the Plans must provide for land use and transportation controls, source monitoring, air quality monitoring, and a procedure for review, prior to construction, of the location of new sources of air pollution. In a revision to the State of California Implementation Plan the State Air Resources Board recommended to EPA that the San Francisco Bay Area be designated as an Air Quality Maintenance Area (AQMP) for particulate matter, oxidants, and sulfur dioxide. For each area designated as an AQMP, a detailed analysis of the area's future air quality will be performed. If this detailed analysis confirms that a national standard will not be maintained through 1985 or attained by 1980, a long-term maintenance plan will be developed. EPA and other air quality-oriented agencies will review the air quality impact of the subject activities in light of these plans. See Appendix C for more details.

2.27. Noise. A noise survey was conducted near the project site to describe the current noise environment and aid in predicting future impacts (page 55, Appendix B). This short-term noise survey was conducted between 1:00 p.m. and 3:30 p.m. on 13 October 1975.

2.28. In addition to short-term noise samples, noise was monitored continuously for a 48-hour period on Beach Street between Powell and Mason Streets. The applicant's analysis of this data shows that the highest noise levels in the project area occur in the late afternoon. Lowest noise levels occur between 2 a.m. and 5 a.m.

2.29. Biological resources. Central San Francisco Bay, where the project would be located, has no terrestrial vegetation and is largely a marine environment. However, there are varying levels and mixtures of brackish and freshwater environments resulting from tidal influences, runoff, and man's activities. Of importance to resident marine fish in the area are tidal transport and exchange, a rich nutrient regime, shelter from the coastal wave action that is typical of oceanic habitats, a required spawning medium, and for some, an adequate water quality.

2.30. Pilings in the Fisherman's Wharf area support littoral organisms dominated by barnacles and rockweed. The lowest part of the littoral zone, the sublittoral fringe, consists of brown algae and bivalves together with copepods, amphipods, isopods, sea squirts, and segmented bristleworms. Crustaceans found on the bottom include bay and ocean shrimps and non-commercial forms such as mysids, amphopods, and branchipods. Mollusks which inhabit the bottom include native oysters and soft-shell clams.

2.31. Among the game and food fish caught from piers in the area are shiner perch, sculpin, rockfish, striped bass, kingfish, jacksmelt, rays, and flatfish. Existing annual angler use of the Municipal Pier, near the project site, has been estimated at about 105,000 angler days (Smith, 13 May 1974).

2.32. The predominant species of birds frequenting piers are gulls and cormorants. Nearshore waters are visited by grebes, surface-feeding ducks such as mallards and pintails, and diving ducks such as white-winged scoters, surf scoters, common scoter, bufflehead, and scaups.

2.33. Endangered and threatened species. The Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.) provides for the conservation of endangered and threatened species of fish, wildlife, and plants. The brown pelican is the only endangered species that might visit the project area.

2.34. Visual setting. The waterfront in the project area is characterized by the hard edges of the bulkhead structures forming the entrances to the piers (see pages 60, 61, and 74, Appendix B). As is true with much of San Francisco's waterfront, the city does not merge with its northern waterfront but comes to an abrupt halt short of it. The visual and physical barriers to the waterfront are most dominant adjacent to the piers, along the Embarcadero.

Social Environment

- 2.35. Public services. The project site lies within the service area of Pacific Gas and Electric Company (PG&E). PG&E supplies natural gas and electricity to customers on Piers 39 and 41, and it previously supplied Pier 37.
- 2.36. The San Francisco Water Department provides water for the project area. San Francisco derives its water supply from three sources, the largest being O'Shaughnessy Dam in the northern Yosemite area. Three hundred million gallons per day (mgd) are available from this source alone, and an additional maximum 50 mgd can be drawn from surface waters in San Mateo, Santa Clara, and Alameda Counties and underground water in Alameda County. The present consumption rate for the city is 100 mgd.
- 2.37. The San Francisco Department of Public Works is responsible for wastewater treatment in the City of San Francisco. Three primary treatment plants are currently in operation: the North Point plant, the Southeast plant, and the Richmond-Sunset (west side) plant.
- 2.38. The North Point plant, located at Bay and Kearny Streets, processes wastewater from the area of the proposed development. This plant treats about 60 percent of San Francisco's dry-weather wastewater. Its capacity is set at 190 mgd and the average flow rates are approximately 60 to 65 mgd. Sewage outfalls are located beneath Piers 33 and 35.
- 2.39. The North Shore Outfalls Consolidation Plan has been proposed by the City to reduce wet-weather overflows from outfalls in the North Shore area. Current plans call for enlargement of the Southeast plant to a 180 mgd-capacity secondary treatment plant, with the date for completing the design of this plant being set for June 1977. Construction could be assumed to require another two or more years. Upon completion, the Southeast plant would provide treatment for the dry-weather wastewater now treated at the North Point plant.
- 2.40. The Golden Gate Disposal Company includes the project site in its service area. Solid wastes are taken to the San Francisco transfer station and from there to a sanitary landfill in Mountain View.
- 2.41. The Mountain View landfill has a life expectancy of about eight years. Golden Gate Disposal is currently collaborating with PG&E on studies of pyrolysis, an energy-recovery system whereby wastes are burned at extremely high temperatures, producing methane. It is possible that by the time the Mountain View landfill has reached its capacity a pyrolysis system will be ready for use in San Francisco.
- 2.42. Some recycling is currently being conducted by the Golden Gate Disposal Company. Ferrous metals are ground and removed from the refuse at the transfer station and a recycling program for newspapers

and cardboard is also in effect. A program for further processing of ferrous metals has been considered but has been found to be economically infeasible at present.

2.43. The San Francisco Police Department has jurisdiction over the project area. Census Tract 101, which includes the project site, has a general crime rate of 158.8 incidents per thousand persons. The immediate area of the site had 363 incidents requiring police intervention over a 12-month period.

2.44. Fire safety regulations at the Port of San Francisco are promulgated by the Port Commission, with the San Francisco Fire Department serving in an advisory capacity. Fire control is under the jurisdiction of the Fire Department.

2.45. Three engine companies, two truck companies, a hose tender, two chiefs, a rescue squad, and the fireboat Phoenix are available for response to alarms at the site. Response time for the first arriving company is three minutes or less; if the fireboat is required, fifteen to twenty minutes is estimated as travel time. The San Francisco Fire Department also maintains an emergency rescue squad and the Underwater Rescue Unit, which are available as needed at the site.

2.46. In May 1973, the San Francisco Bureau of Fire Prevention inspected Piers 37, 39, and 41. Specific instances of potentially dangerous uses (storage of old vehicles, poor housekeeping, etc.) were noted and recommendations were made for improving structures where fire safety provisions were inadequate.

2.47. It was recommended that the wooden shed on Pier 41 be demolished, and this has been done. Recommendations for Pier 39 included upgrading the buildings and substructure to conform to the specifications of the Fire Department. These specifications outlined the systems and structural provisions necessary for fire protection in the piers and in buildings on the piers and set standards for their construction, which would include an automatic sprinkling system, fire wall separations, and curtain boards or draft stops. An automatic sprinkling system was recommended for Pier 37, along with upgrading of buildings and the pier's substructure. The alternative of razing the pier was suggested; however, no action was taken, and pier 37 has since been destroyed by fire.

2.48. A resolution passed by the Port Commission in October 1973 designated Piers 37 and 39 and four other piers to receive priority consideration for fire safety improvements. No improvements have been made, however, and Pier 39 still needs extensive improvements to insure adequate fire safety.

2.49. Transportation. Primary access from the west and northwest to the project site is over North Point Street via Marina Boulevard or Lombard Street and Van Ness Avenue. From the south, Columbus Avenue is

used as the major access street, while from the east and southeast the Embarcadero is the main access arterial. The Embarcadero, Van Ness Avenue, and Columbus Avenues are the major arterials in the study area with the other streets serving as collectors.

2.50. Peak-hour and 24-hour traffic counts were made on streets near the project site (see Figure 28, Appendix B and Plate 2). These indicate that the critical traffic days are Saturdays and Sundays and that no major traffic problems currently exist near the project site.

2.51. The San Francisco Municipal Railway (Muni) operates three bus routes and two cable car lines in the study area. The Golden Gate Transit District, providing transit service between San Francisco and Marin County, operates buses between the North Point area and the Financial District during commute hours only. The District also operates ferries between the Ferry Building on the Embarcadero and Sausalito. Ferry service to Tiburon and Angel Island is provided by Harbor Tours. See Table 4 for statistics on modes of travel to the waterfront.

2.52. Parking in the northern waterfront area is a problem at peak periods, although during low-visitor hours and non-summer weekdays, parking availability (even on the street) is sufficient. The parking problem in the area appears to be the high cost of off-street parking, which places on-street parking spaces at a premium and increases the traffic congestion by people driving around the area looking for on-street spaces.

2.53. Railroad tracks are located along the Embarcadero serving the piers, along Jefferson Street through the Aquatic Park to the Presidio, and along North Point and Beach Streets. Tracks will be removed by the Port as piers are removed or when they no longer serve maritime use. The Federal Government requires that one set of tracks remain along the Embarcadero and Jefferson Street to serve the Presidio. The Port, the Department of City Planning, and other City agencies are studying various concepts that would use at least one track, and probably two, for a surface rail streetcar line along the Embarcadero to serve Fisherman's Wharf.

2.54. Historical and archeological resources. In compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470(f)) the most recent listing of the National Register of Historic Places (Federal Register, 10 February 1976 with monthly supplements) has been consulted and determination has been made that no National Register property nor property eligible for inclusion therein is affected by the project. In compliance with Executive Order 11593 of 13 May 1971, the State Historic Preservation Officer is being contacted to determine if there are any State Historical Landmarks or State Points of Historical Interest which would be affected by the project.

2.55. Economic Environment. Existing facilities in the project area, including restaurants and shops, cover 472,000 square feet and are grouped into four areas: Fisherman's Wharf area (four blocks bordered by Jefferson, Powell, Beach, and Leavenworth Streets), The Cannery, and Ghirardelli Square.

2.56. In the Fisherman's Wharf area, a dozen restaurants generate nearly \$20 million in annual sales, for an average of \$286 per square foot, based on 70,000 square feet. This figure makes this area the most successful restaurant complex in the state. Shops in this area are limited to relatively small souvenir shops, some of which are parts of restaurants.

2.57. Across Jefferson Street from the Fisherman's Wharf area are a number of major restaurants which take advantage of the drawing potential of the Wharf and a number of shops selling small gift items, offering a wide variety of merchandise. The estimated total commercial space in this area is 120,000 square feet, of which slightly more than half is composed of restaurants.

2.58. The Cannery provides a more extensive selection of merchandise, generally higher priced than would be found at Fisherman's Wharf and its surrounding area. Estimated sales at The Cannery totaled \$9.5 million for merchandise in 1974 and \$5.4 million for restaurants during that year. On the basis of 34,000 square feet, these sales totals constitute an average rate of \$180 per square foot for shops and \$160 per square foot for restaurants.

2.59. Ghirardelli Square offers one of the most complete selections of specialty merchandise found in this type of center. With 100,000 square feet of merchandising space, its shops generated approximately \$13.6 million in sales during 1974. Its 12 restaurants (with a total of 60,000 square feet of space) grossed approximately \$9.7 million during the same year.

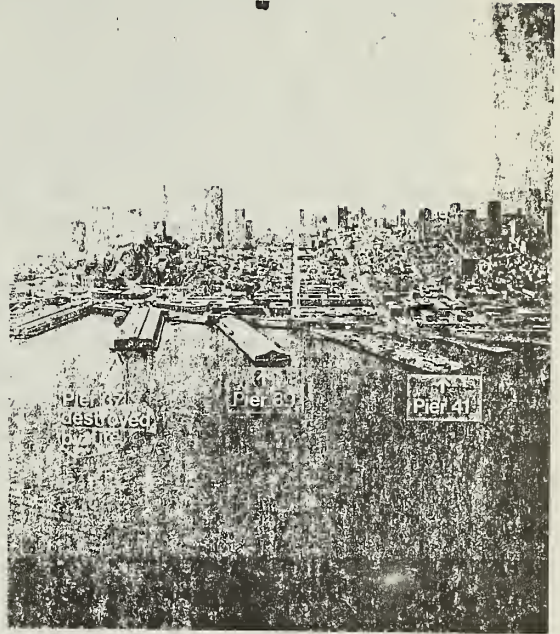
2.60. The combined impact in 1974 of these four areas was estimated to be well over \$40 million in gross annual restaurant sales and more than \$25 million in specialty merchandise sales. This restaurant volume represents approximately 20 percent of the restaurant sales experienced in the entire City and County of San Francisco. Specialty merchandise sold in the area represents approximately 12 percent of the City and County total volume.

2.61. The mean waitress/waiter wage in San Francisco as of July 1973 was \$1.22 per hour, or \$2,600 per year, plus tips, while the mean salary for retail clerks was \$142 per week as of September 1973, or \$7,380 per year. Managerial salaries were approximately \$2,090 per month, or \$25,000 per year. Wage and salary levels could be expected to be comparable in the Fisherman's Wharf area.

2.62. Commercial fishing activities in the Fisherman's Wharf area have been on the decline for a number of years, due to the effects of wave damage. In 1973, 8,900,000 pounds of fish were processed, compared to 13,500,000 pounds in 1963. The number of fishing equipment supply and repair shops has also declined with a corresponding drop in employment.

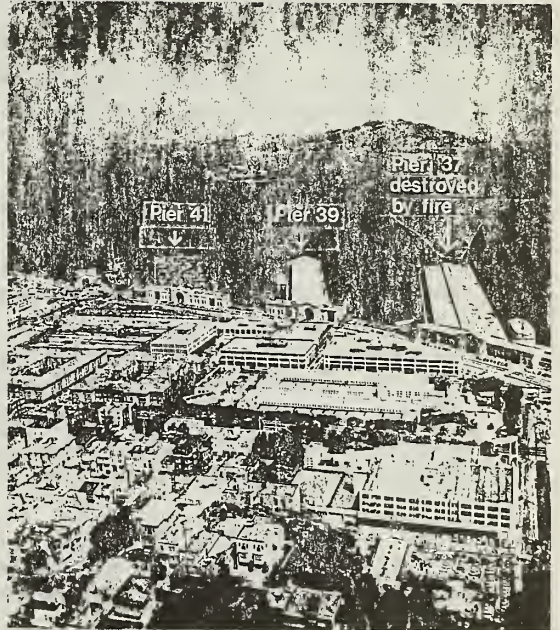
3.00. RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS

3.01. Current Land Use. Current uses around the proposed project area include maritime (piers south of Pier 37), retail and entertainment (area to the northwest), and office space and general commercial activities (land to the southeast). Pier 37, which recently burned, had been used for storage, with some parking and office space. The San Francisco Bay Conservation and Development Commission has authorized completion of demolition of the pier and its bulkhead wharf area. Pier 39 is used for office space and storage, with some maritime activity. Pier 41 housed a structure that has been dismantled; it is temporarily serving as a storage and sales area for the materials from this operation. The pier is to be used for a youth program yet to be inaugurated. Ferries, tugs, and water taxis are moored on an interim basis at Piers 39 and 41.



SITE VIEW FROM NORTH (FIGURE 19, APPENDIX B)

3.02. The project site covers two zone districts. The piers are zoned P (Public Use) while the adjacent areas are zoned C-2 (Community Business) in accordance with the San Francisco City Planning Code. The small-boat marina and the size and configuration of the project conflict with current zoning, which would require reclassification for the proposed development.

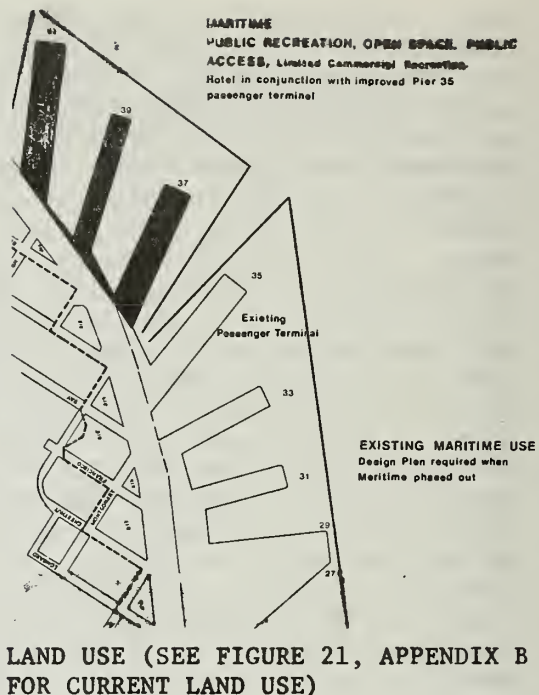


SITE VIEW FROM SOUTH (FIGURE 20, APPENDIX B)

3.03. The Association of Bay Area Governments (ABAG). The ABAG Regional Plan designates the proposed development site as "predominantly residential." The area to the west at Fisherman's wharf is designated "permanent open space." The plan recommends that all development maintain and enhance natural environmental qualities of the Bay region. The plan especially stresses protection of the water areas in the Bay region (ABAG, 1970).

3.04. San Francisco Bay Conservation and Development Commission (BCDC). A Waterfront Advisory Committee was appointed in 1973, and it submitted a recommended Special Area Plan for the San Francisco waterfront to BCDC in December 1974. This recommended plan formed the basis for the "Special Area Plan No. 1: San Francisco Waterfront," adopted by BCDC as a Bay Plan amendment. The proposed activity is generally consistent with the Special Area Plan. However, the proposed project's small-boat marina conflicts with the Special Area Plan's permitted uses for Piers 37, 39, and 41, which are:

- a. Maritime
- b. Public recreation
- c. Open space
- d. Public access
- e. Limited commercial recreation
- f. A hotel built in conjunction with a new passenger terminal on Pier 35.



A conflict might also exist with the intensity of the proposed commercial recreation use on Pier 39 (BCDC, 1974). See Plate 4 for the area designation.

3.05. Northern Waterfront Plan. The Northern Waterfront Plan has development guidelines for the proposed project site. Pier 37 is a Port facility which the Northern Waterfront Plan designates retail entertainment with possible hotel development. The area of Piers 37, 39, and 41 is shown as public open space; North Point Park, according to the plan, is to be a major shoreline park with maximum public access to the water, but the small-boat marina is not consistent with the present plan (Borles, 1968). The City Planning staff is currently reviewing, among other issues in the Waterfront Plan, the creation of North Point Park. See Figure 22, Appendix B for the proposed land use.

3.06. Port of San Francisco. Under the Port's "Master Plan" the project area is designated for non-maritime development. The Port has already approved a Development Agreement with the applicant for development of the area.

3.07. Summary. Of the four plans concerned with the area, the proposed project is generally in agreement with them. The project would add commercial, recreational, and non-maritime facilities on the San Francisco waterfront for public use. However, the proposed small-boat marina and the size of the proposed North Point Park do not conform to two plans and the city zoning regulations. Both the Special Area Plan (BCDC) and Northern waterfront Plan would require amendments and a city zone reclassification would be necessary to proceed with the proposed project.

4.00. THE PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

Physical Environment

4.01. Seismic impacts. The proposed project would be subjected to future seismic activity centered on the major nearby active faults, primarily the San Andreas and Hayward. The Community Safety Element of the San Francisco Comprehensive Plan indicates that the landward portion of the site, an area underlain by manmade fill, could be subjected to liquefaction, subsidence, and ground shaking during future earthquakes.

4.02. The piers within the project site were constructed in 1908-1909 and were designed with a load capacity of 500 pounds per square foot. The proposed structure is expected to have a load factor of 200 pounds per square foot, or less than 50 percent of design capacity.

Oceanographic impacts

4.03. Waves. Under normal conditions waves would not have an adverse effect on the proposed project due to the location, design, and height of the proposed breakwaters. A 100-year frequency tsunami runup at the project site would be 6.2 feet above mean sea level (or 9.2 feet above mean lower low water) and a 500-year runup would be 11.2 feet above mean sea level (or 14.2 feet above mean lower low water) (U.S. Department of the Army, November 1975). Using mean lower low water datum the pier tops are +14 feet and the ground surface is +13 feet; this indicates that the site would not be adversely impacted by a 100-year tsunami, but a 500-year tsunami would affect the area.

4.04. Currents. The overall effects produced by construction of the breakwaters at the project site would be to reduce the velocity of both ebb and flood currents in the nearby water shoreward of the pierhead line and to create low-velocity (less than one knot) gyres in these same areas.

4.05. Sediments. The changes in current patterns caused by the construction of breakwaters would alter sediment deposition at the project site. Sedimentation would probably occur at a greater rate than at present in areas where water velocity is reduced. The increased sedimentation rates would probably be confined to the areas between Piers 41 and 39 and Piers 41 and 43. At an assumed increased sedimentation rate of 1.5 feet per year, maintenance dredging would probably be required ten years after completion of the breakwaters.

4.06. Water quality impacts. Flushing times for the project site would be increased by about 4.3 hours for the flood tide and 2.4 hours for the ebb tide. Effluent from the Beach Street wet-weather outfall will discharge floatable material, a portion of which would travel into the berthing area on an ebb current with some being left on the boats and boat slips at the water line.

4.07. During dry-weather peak-effluent conditions there would be a dissolved oxygen (DO) depletion of approximately 0.4 mg/l, and during wet-weather 5-year storm conditions there would be an approximate 1.1 mg/l DO depletion. However, the DO concentration depletion in either situation is not expected to be below the minimum acceptable DO concentration limit established by the Regional Water Quality Control Board.

4.08. Microclimate impacts. The project would decrease winds on the Embarcadero. The low-rise nature of the project buildings and their orientation with respect to prevailing winds would result in low wind speeds on Pier 39, except at its outer end and between some buildings.

4.09. Air quality impacts (page 87ff, Appendix B). Suspended particulate matter would increase downwind of the site during construction. The potential for windblown dust problems is relatively high because winds in the area are generally the highest in San Francisco due to the lack of upwind (westerly) obstructions.

4.10. Stationary sources of air pollutants within the project include space heaters and exhaust equipment from restaurant kitchens, which would emit mainly hydrocarbons and particulate matter. This type of equipment is exempt from the permit regulations of the Bay Area Air Pollution Control District.

4.11. The source of most pollutants associated with the proposed project would be project-generated automobile traffic. The traffic would affect both local and regional air quality.

4.12. Local effects. The most common air quality problem locally is carbon monoxide (CO). Results of a study undertaken by the applicant (page 88, Appendix B) indicate that the project would increase the one-hour average concentration of CO on the Embarcadero by 36.5% and the 8-hour average concentration by 37.5% above 1975 levels. On Beach Street the 1-hour average concentration would be increased by 38.5% and the 8-hour concentration increased by 66.7% above 1975 levels. However, the Federal ambient air quality standards would not be exceeded.

4.13. Another consideration is carbon monoxide concentrations within and near the parking structure at the intersection of Beach and Powell Streets. There is currently insufficient information on design or use patterns to estimate garage pollutant levels.

4.14. Regional effects. The daily projected emissions, together with estimated future regional (nine-county Bay Area) emissions, are found on page 8a, Appendix B. See Appendix C for more details.

4.15. Noise impacts.

X

▼ Construction phases of the project would temporarily increase the ambient noise level in areas adjacent to the site. Demolition of the structure on Pier 39 and pile driving for the addition to Pier 39 are likely to be the noisiest construction procedures. Peak noise levels occurring during operation of a diesel pile driver are generally between 100 and 107 dBA* measured at a distance of 40 feet, or about 93 to 100 dBA at 100 feet.

4.16. Completion of the project would increase noise levels throughout the surrounding neighborhood by generating traffic, changing existing traffic patterns, and implementing an internal transit system. Based on a 3-dBA increase in noise per doubling of traffic volume, these increases would be on the order of 1 decibel or less. An increase of 1 dBA is not perceived as a difference by the human ear.

4.17. On Powell and Stockton Streets, noise levels would be increased by about 2 decibels. Noise would increase by 1 decibel or less on Beach Street, North Point Street, and the Embarcadero.

4.18. Stationary noise sources associated with the project would include ventilation equipment, fans, air conditioners, and other electrical equipment. Human activity and voices would increase noise levels in and near the project area. Vehicles serving the project would increase noise levels on Pier 39 and in the surrounding neighborhood, even though the number of vehicles would be small.

4.19. Biological impacts. Construction of the breakwaters and marinas would cause a loss of some bottom (benthic) habitat, temporary disturbance of adjacent bottom communities, and temporary increased turbidity in the water column. The loss of bottom habitat would be partially compensated for by the permanent removal of Pier 37 and the eastern half of Pier 41. The attached communities would be destroyed with removal of existing pilings, but the new marine structure would become populated with similar organisms.

4.20. Birds would be displaced from the immediate construction zones during construction periods but would be expected to use these areas again with cessation of construction. Increased sedimentation and maintenance dredging would affect marine organisms, particularly filter feeders such as mollusks.

* Decibel (dB): A unit of sound pressure expressing relative differences in sound levels, equal to ten times the logarithm to the base 10 of the ratio of a sound pressure to the pressure of a sound at the lowest level that the human ear can hear. dBA is a generally accepted unit of loudness corrected for the variation in response of the typical human ear at commonly encountered noise levels.

4.21. Endangered and threatened species. The only known endangered species that may visit the project area is the brown pelican. Adverse impacts on the pelican, due to the proposed project, would be disturbance by marina activities and pier fishermen.

4.22. Visual impacts. The proposed parking structure would not provide visual interest at ground level for pedestrians. There would be an expanded view of the bay due to removal of the two pier fronts (Pier 39 and 41), and a 5.5 acre park would replace the existing railroad yard and part of the Embarcadero now occupied by the landward portion of the project area.

4.23. Growth-inducing impacts. The North Point Park/Marina could induce growth in the economy by generating new employment, increasing consumer expenditures and the amount of money imported to San Francisco, and creating added public revenues from lease income and tax receipts. The expenditures resulting from construction and permanent employment would create new secondary employment within the local economy. As new income is spent and re-spent within the regional economy, a multiplier effect takes place in which the actual amount of income generated in the economy is greater than the initial income accruing to the region. Such a multiplier effect would stimulate growth in other sectors of the local economy. Because the development would cater to a large number of tourists, it would be a source of growth for San Francisco by bringing money into the local economy.

4.24. Although the project could have a potential long-term growth effect on sales volumes of existing facilities in the northern waterfront area, it would be expected to retard the growth of similar uses temporarily until all the restaurant and retail space could be absorbed. The construction of a marina would probably induce growth in boat-oriented businesses.

Social Environment

4.25. Public service impacts. The natural gas consumption of the project is estimated at $2,100 \times 10^5$ British thermal units (BTU) per day, or 1,050 BTU/sq. ft./day (see Figure 26, Appendix B). Most of the natural gas consumed on the project site would be used in the restaurant kitchens for cooking and hot water.

4.26. Any increase in demand on the firm natural gas supply in California increases the duration of service loss to interruptible customers.* By 1978 firm customers are expected to receive 100 percent of

* Interruptible customer: One whose natural gas consumption exceeds 200,000 BTU per day; all such customers have an agreement with PG&E that their gas can be shut off on one day's notice. Interruptible customers must have a supply of fuel oil and equipment that can be switched from gas to fuel oil.

their demand, while interruptible customers will receive approximately one-third of that. As firm demands increase, the latter portion will decline. Decreases in the interruptible natural gas supply will increase the demand for petroleum products and the incentives for energy conservation. The estimated gas consumption for this project is equivalent to 9,430 barrels of crude oil annually that could be consumed by interruptible customers.

4.27. It is expected that by 1983 firm natural gas customers in California will receive over three-fourths of their demand, and although firm requirements are expected to be met in northern California, the available supply will be low. The Public Utilities Commission anticipates that curtailment of gas supply to firm customers at the peak day will begin in the winter of 1980-1981. Based on these projections, the proposed project may not be able to obtain all of the gas it requires after 1980.

4.28. PG&E would supply electricity to the project through underground cables. The project's electrical consumption is estimated at 631,000 kilowatt hours (kwh) per month, or 3.15 kwh/sq. ft./month. Consumption is expected to reach a maximum during the summer because of air-conditioning loads. Figure 28, Appendix B compares project and city electrical consumption.

4.29. The proposed project would consume about 149,000 gallons of water per day or 0.15 million gallons per day (mgd), and additional water would be needed for landscaping with the quantity depending on the types of vegetation and the amount of landscaping included. San Francisco currently has available about 250 mgd of water above its present consumption. Installing or expanding connections for the site to the main beneath the Embarcadero would require some street excavation and associated repair. Except for the cost of the meter, the developer would bear financial responsibility for these operations.

4.30. The project would generate about 149,000 gallons per day (0.15 mgd) of wastewater, and wastewater generated by the project would be less than 0.08 percent of the North Point plant's capacity of 190 mgd. Plans are to convert it to a wet-weather facility and to transfer dry-weather wastewater loads to an expanded southeast plant. The Department of Public Works has indicated that the proposed project could be adequately served. The ban on new sewer connections imposed recently by the Regional Water Quality Control Board would delay construction of the project unless it is lifted by the time a building permit application is submitted.

4.31. The proposed project would generate about 2,040 pounds per day of solid waste, or about 370 tons per year. Solid wastes have a cumulative impact over a period of years since, unless they are pyrolyzed, they remain physically present for some time after they are produced. Given a five-percent-per-year increase in solid-waste

generation (based on the high estimate of Golden Gate Disposal), over a period of ten years the project would generate a total of 1,590 tons.

4.32. The proposed project could affect the services provided by the San Francisco Police Department in two areas: reported incidents requiring police intervention and traffic control. Using the current rate of 158.8 incidents per thousand resident population in Census Tract 101, within which the project is located, the increase in population due to the project could result in a maximum increase of about 120 to 135 reported incidents per year.

4.33. The San Francisco Police Department estimates its costs by dividing the total annual budget by the number of incidents handled in one year, resulting in a current figure of about \$625 per incident. Using this figure, the project would be assumed to necessitate an annual increase in police services costing about \$108,000 per year.

4.34. The San Francisco Fire Department has indicated that, providing all applicable codes and regulations are met, construction of the project should not affect the Department. Because of the autonomy of the Port, the normal procedure is for each project to undergo individual review by the Port Fire Marshall, who specifies protection requirements. Any building used for public assembly, however, is subject to the jurisdiction of the City Fire Department under Title 19 of the California Administrative Code. Requirements for protection include:

- a. Five 3" gated outlets accessible to fire equipment with 250-gallon-per-minute capacity above the fire sprinkler requirements, and
- b. Four drafting positions where equipment can be lowered into the Bay for pumping.

4.35. Special hazards are sometimes associated with public use of areas adjacent to bodies of water. Concerning the extent of such considerations, the amount of added service required of the Fire Department by reason of opening the piers to the public is purely speculative and no records of any effect on past innovations, such as the Maritime Exhibit at the foot of Hyde Street or the Balclutha Exhibit, are available.

4.36. Transportation impacts. Table 5 shows the expected increase in the number of vehicles and transit riders to the northern waterfront area generated by the proposed project on a summer day. Existing traffic counts along streets in the project area are provided in Plate 2.

4.37. Plate 3 shows the 1985 hourly traffic volumes estimated on the basis of existing traffic data and an average one percent annual increase. The percentage increase over 1985 volumes expected to be generated by the project is also shown.

4.38. Table 10, Appendix B shows capacities of the principal streets affected, present peak-hour traffic and its percent of capacity, and additional traffic generated by the proposed project and its percent of capacity. It is also assumed that Beach Street would continue as a two-way street. Generally, the traffic impact of the proposed project would be exerted primarily at the peak visitor periods, when pedestrian densities are high and street capacities are approached.

4.39. If the Embarcadero remained open upon implementation of the project, it can be estimated that about half of the 233 additional peak-hour vehicles that would be generated on Beach Street if the Embarcadero were closed would be added to the Beach Street traffic. The other half, i.e. 117 vehicles per direction per hour, would be added on the Embarcadero, or 51 percent of capacity.

4.40. The 1985 hourly volumes on Beach Street would thus increase from about 100 westbound vehicles to about 220, an increase of about 120 percent to about 43 percent of the street's capacity. In the eastbound direction, hourly traffic would increase from 300 vehicles to 420, about 82 percent of capacity.

4.41. On the Embarcadero, which has a capacity of 1,500 in each direction at this location, hourly traffic would increase from about 880 westbound vehicles to about 1,000 (67 percent of capacity) and from about 420 eastbound vehicles to about 520 (35 percent of capacity). These traffic increases are moderate and their impact would be felt only at peak visitor hours, when pedestrian densities would be high.

4.42. If the Embarcadero were narrowed to two lanes westbound, the eastbound traffic would be diverted onto Beach Street. The impact in terms of additional vehicle volumes on Beach Street would be about half the impact if the Embarcadero were fully closed. Two lanes eastbound on Beach Street would probably be required.

4.43. Leaving the Embarcadero open would reduce the traffic impact on Beach Street and would not require widening it to four traffic lanes. Many people who would park their cars in the proposed garage would have to cross the Embarcadero to get to the piers. A covered wooden pedestrian bridge connecting the garage to the commercial/recreational area on Pier 39 is planned to mitigate conflicts between vehicle flow on the Embarcadero and pedestrian crossings. Such a bridge would not be consistent with the City's urban design policies.

4.44. Ridership would increase on the transit routes as a result of the increased travel generation, and this would increase the fare box revenues. Assuming the least favorable modal split* levels, the additional transit trips would amount to 11,100 on an average Friday and 7,000 on an average Saturday. Total revenues would not increase if the increased transit ridership were to necessitate additional transit service. This might be the case for the Mason-Taylor cable car, especially if it were extended to the Wharf area itself.

4.45. The highest parking need would be on Friday afternoons from noon to 3:00 p.m. Parking needs would range from 750 to 1,180 spaces (including the 150 spaces for Harbor Carriers, Inc.)**, assuming a moderately-improved level of transit service. Most of the parking need would be generated by the restaurants.

4.46. One thousand parking spaces are proposed for the project. Subtracting the 150 spaces reserved for Harbor Carriers, 850 spaces would be available to satisfy the additional demand generated by the proposed project. This would be at the lower end of the projected demand for the Friday peak period. If actual demand approximated the upper estimate, a shortage of 330 spaces would result; a surplus of 100 spaces would exist if demand approximated the low estimate of 750 spaces.

4.47. Some of the excess demand could be absorbed by parking facilities in the eastern part of the Fisherman's Wharf area, especially on weekdays. Making it more difficult to park close to the project at peak periods, by increasing the general parking shortage at those periods, would induce more drivers to use other modes of transportation in the long term.

4.48. Historical and Archeological resource impacts. Since there are no known archeological or historical resources at the site, there would be no impact unless such resources were uncovered during construction. In such a case, work would stop to permit professional evaluation of the find.

4.49. The State Historical Preservation Officer and the National Park Service has been contacted to comment on the effect of this proposed project on any possible archeological and/or historical resources in the area.

* Modal split: Percentage of the total number of trips made by each mode of conveyance.

** The developer is required through his contract with the Port Commission to provide 150 spaces to Harbor Carriers, Inc.

Economic Environment

4.50. Regional and local demand for restaurant and retail space impacts. Recent estimates show that there are currently about 20,000,000 square feet of retail space (which includes eating and drinking establishments) in San Francisco. Projections of future increases in retail space for the city indicate a net increase of 726,000 square feet by 1985, of which 55 percent would take place in major commercial areas of the city (see Table 1).

4.51. The proposed project, with 200,000 square feet, would fall within the projections for the year 2000, but would exceed the projections for 1985 by more than 136,000 square feet. This indicates that it would consume most of the expected increase in retail space for the northern waterfront area and that, in the short term, the project would provide more retail space than projected demand. This could have a short-term retarding impact on the growth of existing commercial establishments in the Fisherman's Wharf area, since the area would be overbuilt until growth in demand overtook supply. A report by Williams-Kuebelbeck and Associates projected an increase in restaurant sales of \$9.7 million from 1974 to 1985 for the Fisherman's Wharf area, based on total annual sales in San Francisco of \$221 million in 1985 and assuming that 50 percent of future increases would take place in the Fisherman's Wharf area. Assuming that the new restaurants would generate about \$100 of annual sales per square foot, 97,000 square feet of new restaurant space could be supported by the projected increase in demand of \$9.7 million. The study concludes that additional facilities would create a shift in demand from other areas of San Francisco and that such a shift would account for absorption of the remaining 36,000 square feet of restaurant space proposed in the project.

4.52. Based on the data for the increase in restaurant demand, the 133,000 square feet of restaurant space proposed for the development would capture about \$13.3 million of the total expected growth in restaurant sales in San Francisco of \$19.4 million between 1974 and 1985, which is almost 70 percent of the total (Williams-Kuebelbeck and Associates, Inc., 1976).

4.53. The Port of San Francisco records for the years 1965-1975 show that major Wharf restaurants as a group experienced an increase in total sales of 109 percent, or an average of nearly 11 percent annually. Accounting for inflation, these restaurants probably averaged five to six percent annually. During 1974 restaurants in the Fisherman's Wharf area grossed \$40 million in sales, for an average of \$154 per square foot (based on 260,000 square feet), considerably higher than the \$100 per square foot standard for profitable operation.

4.54. Assuming that the 133,000 square feet of project restaurants were to have average sales of \$100 per square foot, total annual gross sales would be \$53.3 million on 393,000 square feet of space, for an average of \$136 per square foot based on 1974 figures.

4.55. According to the Williams-Kuebelbeck report, the 67,000 square feet of specialty retail space proposed in the development could be absorbed with less than 20 percent penetration of net new demand through 1985.

4.56. By increasing restaurant and retail spaces along the northern waterfront, the proposed project would have short-term impacts on related activities in the area and the city as a whole in terms of increased competition, especially on restaurant operations. Surplus restaurant space may be created in the short term and may require some time to be absorbed and to provide sufficient business for all operations.

4.57. Demand for sport-fishing berths impacts. There are now about 28 sport-fishing boats in San Francisco, and the number of sport-fishing boats moored in San Francisco has been steadily decreasing due to inadequate facilities.

4.58. Plans by the U.S. Army Corps of Engineers for improving Fisherman's Wharf include the provision of space for sport-fishing boats. The availability of berths at the proposed development could attract boats now located in other cities, provided that competitive rates were charged. Berthing facilities at Fisherman's Wharf and North Point could reduce the demand for berthing spaces in other cities, such as Brisbane (proposed marina), Emeryville, and Sausalito.

4.59. Demand for a small-boat marina impacts. There are about 700 berths at the San Francisco Marina, with a waiting list of about 900 as of September 1975 (Williams-Kuebelbeck and Associates, Inc., 1976). An informal survey of other marina facilities in the area indicated an unmet need for small pleasure-boat docking space. The Oakland Marina has about 800 berths and any vacancies are filled immediately, while the Alameda Marina has a waiting list of 100. The Point San Pablo Yacht Harbor and the Berkeley Marina are also full; in the latter, small boats wait for berthing space for an average of about a year.

4.60. Employment impacts. An estimated \$20 million would be spent on construction of the project. Assuming about 45 percent of the construction cost for labor, \$9 million would be paid in construction salaries. At an hourly wage of \$9.61, about 937,000 person-hours, or 488 person-years, of work would be generated.

4.61. Employment figures for the proposed restaurants are based on 133,000 square feet of space. At one employee per 150 square feet of restaurant development, about 890 jobs would be created. Development of 66,700 square feet of retail shops and entertainment facilities would create an additional 133 jobs at one employee per 500 square feet. An estimated 25 management and maintenance jobs are also expected to be created by the project. The 50 sport-fishing boats that could be berthed in the marina, at two persons per boat, could employ an additional 100, although some of these may be jobs relocated from elsewhere (see Table 2).

4.62. Revenue impacts. Revenues generated by the North Point Park/Marina (1975 tax rates) to the City and County of San Francisco would come from several sources (see Table 3):

- | | |
|-----------------------------|--|
| a. Sales tax- | 1% of gross sales (State of California Department of Taxes) |
| b. Employees' payroll tax- | 1.1% of employee payroll (San Francisco Tax Collector) |
| c. Parking tax- | 9.1% of gross parking receipts or 10% of net receipts (San Francisco Parking Authority) |
| d. Utilities tax- | 5% of utility costs (San Francisco Public Utilities Commission) |
| e. Personal property tax- | Assessed value x 25% x tax rate <u>OR</u>
\$11.50/\$100 appraised value (San Francisco Assessor's Office) |
| f. Possessory interest tax- | Assessed value x 25% x tax rate <u>OR</u>
\$11.50/\$100 appraised value (San Francisco Assessor's Office) |

5.00. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

5.01. Seismic Activity. Typical of the Bay Area, seismic activity could do possible damage to the proposed project. Since the onshore portions of the development would be constructed on fill, they would be particularly susceptible to damage.

5.02. Sedimentation. Changes to existing current patterns caused by the construction of breakwaters would probably cause increased sedimentation within the project site. This would probably be confined to the areas between Piers 41 and 39 and Piers 41 and 43.

5.03. Water Quality. Unslightly floatable debris from the Beach Street wet-weather outfall and small craft using the marina would be temporarily trapped in the marinas.

5.04. Air Quality. Increased traffic in the area would cause increases in local concentrations of carbon monoxide. Projected levels of carbon monoxide concentrations would be below present Federal air quality standards.

5.05. Biological Resources. To the extent that the project increased the sedimentation rate in the immediate area, resulting in a subsequent need for maintenance dredging, it would increase the potential for disturbance of the aquatic environment. Primarily affected would be the benthic, or bottom-living, communities removed in the dredging process.

5.06. Community Services. The project would increase the demand for City services (including police and fire protection, solid waste collection, and wastewater treatment) and exert a demand on the supply of natural gas and electrical energy.

5.07. Transportation. Traffic generated by the proposed project, in conjunction with increased pedestrian activity, would add to the congestion of streets and intersections in the area. This congestion would also hamper the movement of transit vehicles. The demand for parking near the northern waterfront would increase.

5.08. Economics. Business attracted to the proposed project would probably represent a volume loss to nearby Fisherman's Wharf merchants until a predicted project-induced increase in total area volume took place.

6.00. ALTERNATIVES TO THE PROPOSED ACTION

6.01. Alternatives Available. The two alternatives available to the Corps on the permit application from Waterfront Recreation Facilities, Inc. are to grant or to deny the permit. The impacts from granting the permit are discussed in other sections of this statement.

6.02. Permit Denial. If the North Point Park/Marina were not built, present site uses would be retained, at least temporarily. Piers 39 and 41 and Seawall Lots 311 and 312 would remain unchanged, with the possible exception of the western half of Pier 41 in connection with improvement plans for that area by Harbor Carriers, Inc.

6.03. With this alternative, none of the impacts associated with the proposed project would be exerted on the northern waterfront area. There are currently no competing development plans for the project area. The primary effect of the no-project alternative would be to hold open future options for development of the area.

6.04. Development According to BCDC Plan. The Bay Conservation and Development Commission Area Plan calls for a non-maritime waterfront park with commercial recreation use, "limited in scale and incidental to park use". Additional use would be limited to a hotel (not to exceed 400 rooms) built only in conjunction with a new passenger terminal on Pier 35.

6.05. Uses proposed in the North Point Park/Marina project would be allowed under the Special Area Plan except the small boat marina. Exclusion of the marina would reduce the traffic generation and parking demand exerted by the project.

6.06. As specified in the Special Area Plan, a hotel could be built only in connection with a new maritime passenger terminal. In the spring of 1975, the Port sought to interest private developers in refurbishing Pier 35. At the present time it appears unlikely that this will be done. Since a hotel would be smaller in scale than the North Point Park/Marina, it would exert a reduced impact on transportation facilities and public services. It would have an impact similar to the proposed project on opening the waterfront to the public by retaining one pier and removing the other two.

6.07. The Special Area Plan calls for predominantly public open-space use of the project site, with limited commercial use. This is the only area between Piers 9 and 41 currently designated for such use.

6.08. Although the proposed project is primarily commercial, public access to the waterfront would be provided along its entire length by walkways along the breakwater and the periphery of the commercial structure (Pier 39), and in the waterfront park. The character of the

open areas provided by the project, however, would differ from that of a primarily open space development. The intensity of use of the public areas with the project would be greater than with a predominantly open space use. The views over the Bay would also be different, since the project would include a marina.

6.09. Predominantly open space development would generate less traffic and parking demand than the project. The lower intensity of such a use would create correspondingly fewer secondary impacts, in terms of air and water quality, noise, and public service needs, and would result in lower energy requirements.

6.10. Development of the project site for predominantly open space use, however, would not be financially possible unless it were undertaken or subsidized by the City or other funding sources. Earlier efforts to develop the site were stalled due to lack of financing.

6.11. Development According to the City's Northern Waterfront Plan. Development according to the Northern Waterfront Plan would entail commercial development on the seawall lots and Pier 37 (destroyed), with Piers 39 and 41 in maritime uses. The City is currently revising this plan.

6.12. Development of the Entire Site as Public Open Space. Piers 37 and 41 would be removed and Pier 39 would be retained as a fishing pier. A public esplanade along the bulkhead would extend from Pier 39 to Pier 43-1/2. The Eagle Cafe would be retained, and Seawall Lot 311 would contain a public playfield. This alternative would be entirely consistent with BCDC Special Area Plan No.1 and would be one means of implementing the Special Area Plan at this location.

6.13. The philosophy behind this plan is that the waterfront shoreline should be allocated to maritime, open space, and recreational uses; that the northeastern section of the city lacks a large turfed area, suitable for such games as baseball, and adequate tennis court space; that the northern waterfront area is already overburdened with problems caused by the kinds of uses proposed in the North Point Park/Marina; and that any new uses added to the area should differ from the prevailing uses and should not contribute to existing problems.

6.14. Uses such as shops, restaurants, hotels, offices, parking lots, and garages, whose existing development has caused vehicle-related problems in the area, should not be added within the northern waterfront area. Instead, planning emphasis for the area should seek maritime and recreation uses along the shoreline, residential uses inland, restriction of visitor and employee parking from neighborhood streets, and lowering of parking rates for existing facilities.

6.15. The esplanade could be funded by the State Open Space and Recreation Fund, the State Department of Fish and Game (for the possible fishing area), and Port income from commercial tenants of nearby seawall lots. The playfield could be funded by the State Open Space and Recreation Fund, the new State Urban Parks Fund, and San Francisco Proposition J funds. If a public marina were installed, the funds could come from the State Department of Navigation and Ocean Development.

6.16. The commercial waterfront activities excluded from the northern waterfront area could be accommodated along the waterfront in the area of the Ferry Building.

6.17. Development of the project site solely for public open space would generate less vehicular traffic and parking demand in the area than the proposed project, but would have a greater impact than the no-project alternative as some additional parking would be needed for park use. The size of the waterfront park under this alternative would be larger than that proposed for the project, and, in the absence of extensive commercial activity, the intensity of use would be less than for the project park. The extent of impacts on the natural environment would be less than that of the proposed project, and energy requirements would also be less.

6.18. Within the northern waterfront area there would be a potential revenue loss to the Port and public funds would be required for the development of the esplanade or North Point Park.

6.19. It should be noted that the North Point Area was never considered by the BCDC to be an area of potential revenue for the Port, with the exception of the adjacent seawall lots and the possibility of a hotel in connection with a modernized passenger terminal.

6.20. Construction Phasing Alternative. It is planned to build the entire project in one phase. Any possible phasing would be contingent on how quickly the commercial areas could be leased. A possible construction schedule is shown on page 143b, Appendix B. Phase I would include the commercial space at the end of Pier 39, the breakwaters and marinas, and the garage; Phase II would be the park and the commercial recreation space on the west side of Pier 39; and Phase III would be the commercial area on the east side of Pier 39.

6.21. Design Alternatives. The architectural firm of Walker and Moody studied a number of alternative plans for the site. The first considered included a hotel on Seawall Lot 311 together with the removal of Pier 39 and the rebuilding of Piers 41 and 37 to form a small boat harbor, with commercial development and surface parking on Piers 41 and 37. North Point Park would be built extending from Pier 37 to the west side of Pier 41.

6.22. This plan would probably create similar, if not greater, magnitudes and types of impacts as those identified for the proposed project. A combination of hotel and commercial space could create a higher intensity of use on the site, resulting in higher energy consumption. Traffic generated along the Embarcadero would be greater than for the proposed project with parking on Piers 41 and 37. Expenditure of energy and materials during construction would be greater than the proposed project since an existing pier would be demolished and a pier that had been destroyed by fire rebuilt.

6.23. This plan was studied by the design team together with the staffs of the various agencies and interested citizen's groups. It was decided to avoid parking on the piers and to reuse Pier 39, since its physical condition is superior to that of the others. The marketability of the hotel was also questioned due to the recent development of several hotels in the Fisherman's Wharf area.

6.24. A second plan was developed and studied as before. This plan utilized Pier 39 for commercial uses, with parking provided for marina users. Pier 41 was to be developed for commercial use, with access limited to drop-off vehicular traffic. A parking garage was proposed on Seawall Lot 311 in place of the hotel. This plan met more of the desires of those involved but proved to be unfeasible because of access problems. The commercial uses, which were at the end of Pier 39, were a considerable distance from the points of access and parking.

6.25. This plan differs from the proposed project only in the use of Pier 41 for commercial activity. If the total area of commercial space were the same as the proposed project, environmental impacts from this alternative would be similar.

7.00. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE OF LONG-TERM PRODUCTIVITY

7.01. Productivity of the project area can be measured in two ways: (1) its economic productivity as determined by its financial return to the Port and the degree to which it increases the expenditure of tourist dollars in San Francisco; and (2) its recreational/aesthetic productivity as determined by the degree to which the area serves as an asset for the recreational activity and aesthetic enjoyment of San Franciscans and visitors.

7.02. The North Point Park/Marina could promote an increase in productivity in the above areas over existing uses through the variety of uses it contains.

7.03. The project would be a long-term use, since a 60-year lease would cover the activities of several generations. Future options would be foreclosed during this period, since the use mixture determined now would probably be retained throughout the life of the project unless imbalances in the financial position of the development emerge.

8.00. ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH
COULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

8.01. While the changes in land use and visual character of the area and other associated alterations are long-term, they are reversible. The irreversible environmental changes that would take place are the commitment of non-recyclable (by present technology) material resources used for the construction of the buildings and the energy consumed during the construction phase and throughout the life of the project.

9.00. COORDINATION AND COMMENTS AND RESPONSES

9.01. Public Participation. The application for a Department of the Army permit by Waterfront Recreation Facilities, Inc. was first announced by the San Francisco District in Public Notice 10745-48, 13 August 1976 (Document A-5, Appendix A). Comments were solicited from the general public as well as from Federal, State, and local agencies. Current regulations state that " . . . public hearings will be held upon written request whenever the District Engineer determines that there is sufficient public interest to warrant such action" (Department of the Army, 1975).

9.02. Government Agencies. Comments on the Public Notice announcing the permit application are required from the U.S. Department of the Interior, U.S. Department of Commerce, U.S. Environmental Protection Agency, and the California State Resources Agency.

9.03. The Department of the Interior, Fish and Wildlife Service, believes the proposal to alter the use of the area would adversely affect future fish and wildlife resources of San Francisco Bay. The Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, and the U.S. Environmental Protection Agency did not comment on the Public Notice pending preparation of an Environmental Statement. The California State Resources Agency requested that the permit be held in abeyance until the applicant supplies additional information to the Department of Navigation and Ocean Development and meets the requirements set forth by the State Water Resources Control Board and the San Francisco Bay Conservation and Development Commission (BCDC). The U.S. Coast Guard has advised the applicant that any obstruction to the navigable capacity of any waters of the United States without affirmative authorization by Congress is prohibited, that the structure must be marked if it is deemed to be a hazard to navigation, and that consideration be given for facilities to contain bilge and waste oils.

9.04. In response to the provisions of the California Environmental Quality Act (CEQA), California Public Resources Code, Sections 21000 to 21553 as amended by A.B. 889 (1972), the applicant prepared an Environmental Impact Report (Appendix B) which was made available to the required agencies and public interest groups.

9.05. Citizen Groups and Others. The major interests indicated in comments received on the Public Notice announcing the permit application were related to a freight car interchange, configuration of the breakwater, and development on all of Pier 41.

9.06. The Atchison, Topeka, and Santa Fe Railway Company, Harbor Carriers, Inc., and the Downtown Association of San Francisco responded to the Public Notice. No public hearing has been held by the Corps of Engineers.

9.07. Comments and Responses. The questions and issues raised by this Draft Environmental Statement, along with copies of the letters of comments, and appropriate responses will be included in the Final Environmental Statement.

REFERENCES

- Association of Bay Area Governments (ABAG), 30 July 1970, Regional Plan 1970:1990 San Francisco Bay Region. Berkeley, California.
- Boeles, John S. Associates, 1968. Northern Waterfront Plan. Prepared for the City and County of San Francisco.
- San Francisco Bay Conservation and Development Commission (BCDC), January 1969. San Francisco Bay Plan. San Francisco, California.
- San Francisco Bay Conservation and Development Commission (BCDC), December 1974. Special Area Plan No. 1: San Francisco Waterfront. San Francisco, California.
- Smith, Felix, 13 May 1974. Field Supervisor, U.S. Fish and Wildlife Service. Letter from Felix Smith to U.S. Army Corps of Engineers concerning angler fishing at the Municipal Pier.
- Sorenson, R.M., 1967. "Investigations of Ship-Generated Waves," Journal of the Waterways and Harbors Division. Vol. 93, No. WW1. American Society of Civil Engineers.
- U.S. Department of the Army, November 1975. "Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound." Vicksburg, Mississippi.
- U.S. Department of the Army, March 1976. Breakwater Study for Light-Draft Navigation. U.S. Army Corps of Engineers, San Francisco, California.
- Williams-Kuebelbeck and Associates, Inc., 16 April 1976. Feasibility Study for Small-Craft Harbor Improvements at Fisherman's Wharf. Redwood City, California.

TABLES

TABLE 1
PROJECTED NET CHANGE IN RETAIL SPACE FOR
SAN FRANCISCO AND NORTHEAST DISTRICT,
1973-2000

	<u>Net Change (1,000 sq. ft.)</u>		
	<u>1973-1985</u>	<u>1973-2000</u>	
		<u>Low</u>	<u>High</u>
City-Wide	726.0	1,420.0	4,690.0
Northeast District	63.4	260.0	420.0
North Point Park/Marina Development		200.0	

SOURCE: Arthur D. Little, Inc., Commercial and Industrial Activity in San Francisco: Present Characteristics and Future Trends, June 1975.

TABLE 2
ESTIMATED EMPLOYMENT GENERATION

	<u>Total Project</u>
Construction Costs	\$ 20,000,000
Person-Years of Construction	488
Permanent Employees:	
Restaurants	887
Retail Shops and Entertainment Facilities	133
Management Maintenance	25
Sport-fishing	<u>100</u>
Total	1,145

TABLE 3
ESTIMATED ANNUAL REVENUES

Sales Tax	\$ 400,000
Employees' Payroll Tax	43,000
	(99,000)*
Parking Tax	100,000
Utilities Tax	18,000
Personal Property Tax	290,000
Possessory Interest Tax	<u>730,000</u>
Total Annual Revenue to the City and County	\$1,580,000 (error due rounding)

* Construction (not included in total); all other figures are annual.

TABLE 4
MODE OF TRAVEL TO WATERFRONT (%)

	Location			Total (N=351)
	Beach/ Hyde (N=110)	Jefferson/ Taylor (N=146)	Pier 41 (N=95)	
Muni Bus	3	7	7	6
Cable Car	21	13	17	17
Tour Bus	-	23	3	11
Ferry, Golden Gate Bus	<u>-</u>	<u>7</u>	<u>-</u>	<u>3</u>
Total Transit	24	50	27	36
Automobile	46	41	64	48
Walking	22	9	9	13
Other (taxi, bicycle)	8	-	-	2

N = Number of individuals interviewed.

TABLE 5

ADDITIONAL VEHICLES AND TRANSIT RIDERS
GENERATED BY THE PROPOSED PROJECT¹

	Additional Vehicles ^{2,3}		Additional Transit Riders ³	
	A	B	A	B
Friday	4,600	3,600	7,000	10,400
Saturday	3,900	3,100	7,000	9,900

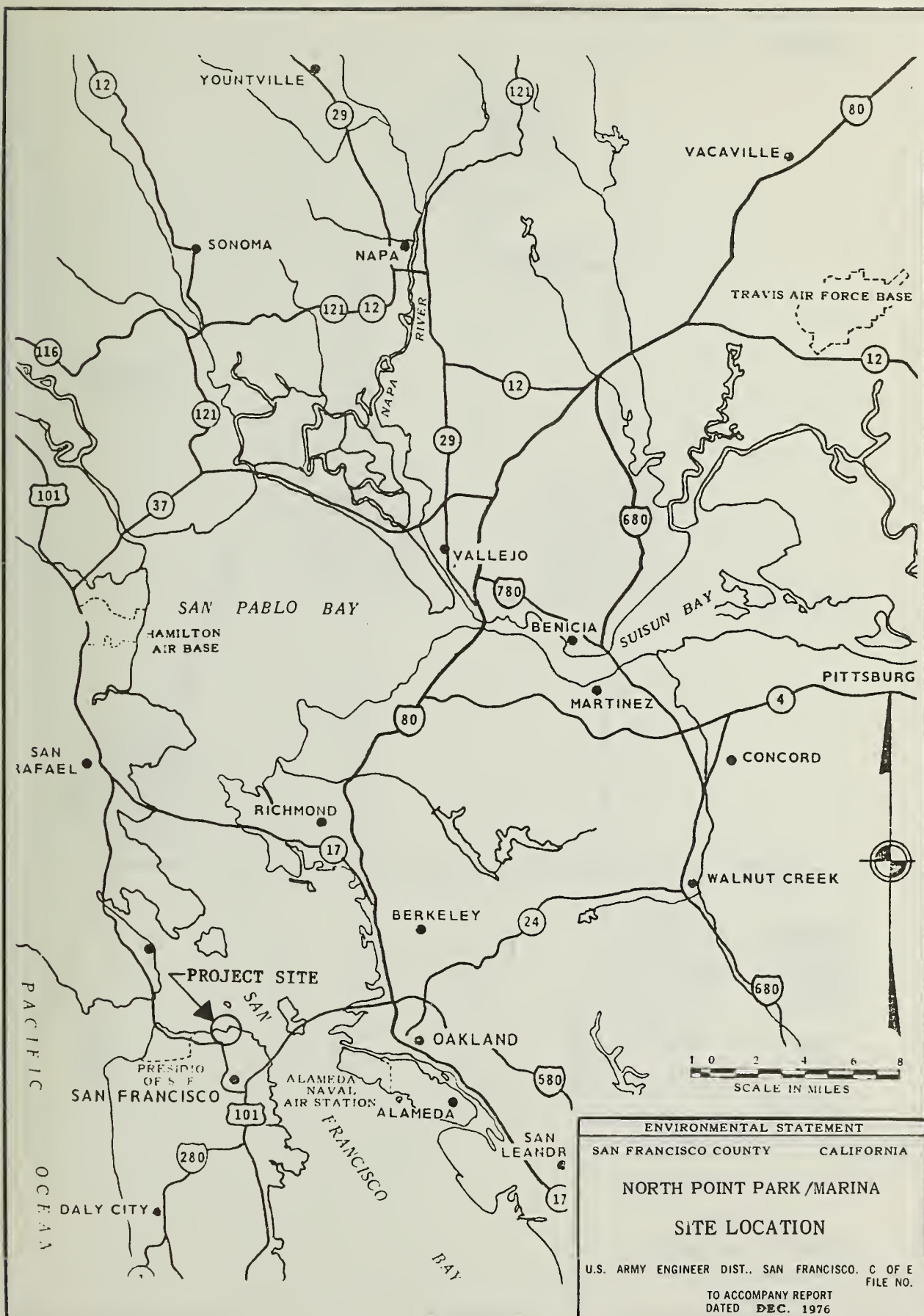
1 The Department of Public Works has estimated 24-hour traffic generation during the weekend at 4,200, assuming the same modal split between vehicles and transit riders that exists for the present wharf facilities. Peak parking demand has been estimated as at least 900 spaces between noon and 1:00 p.m. on Saturdays.

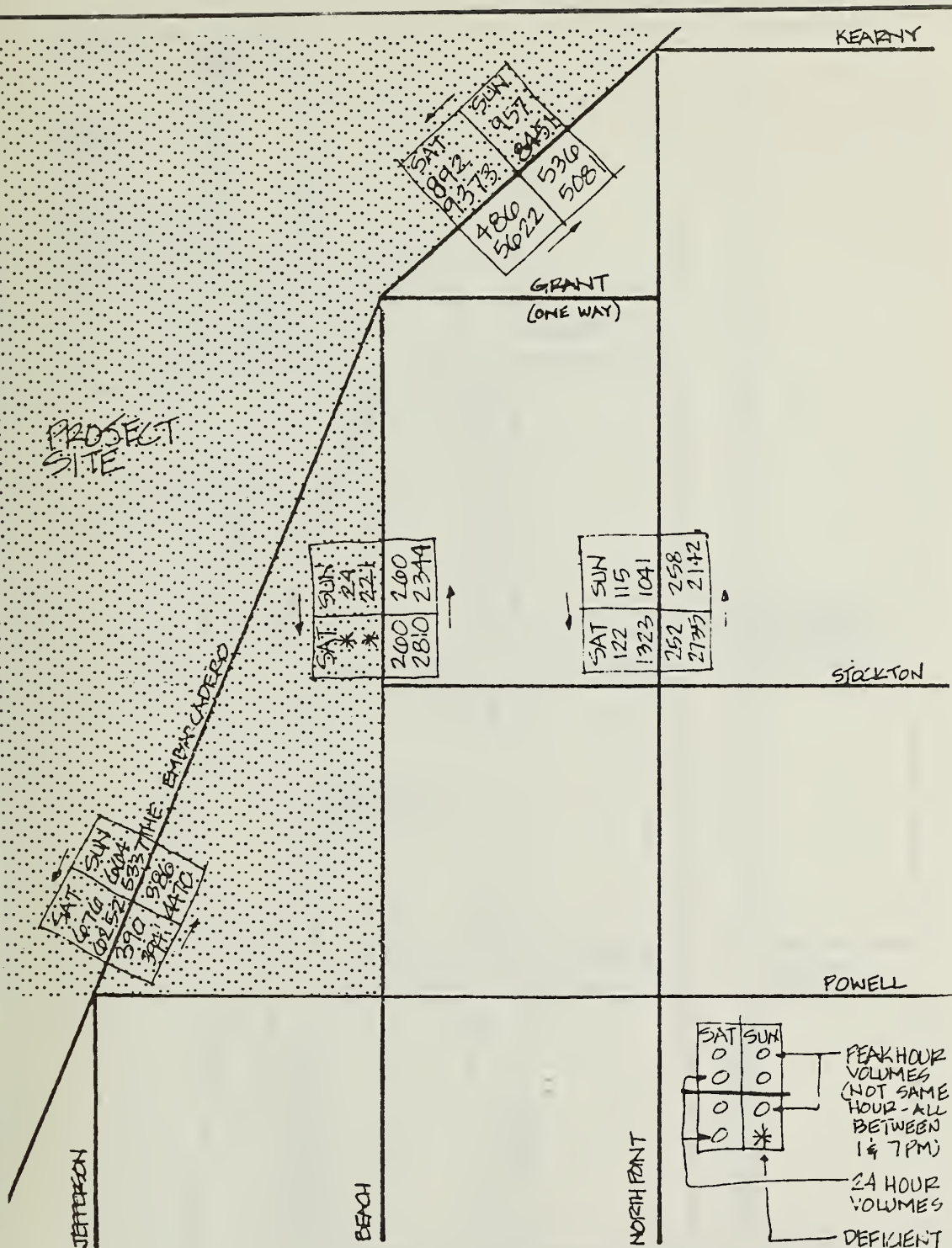
2 Multiply by two for vehicle trips.

3 Based on two levels of transit improvement:

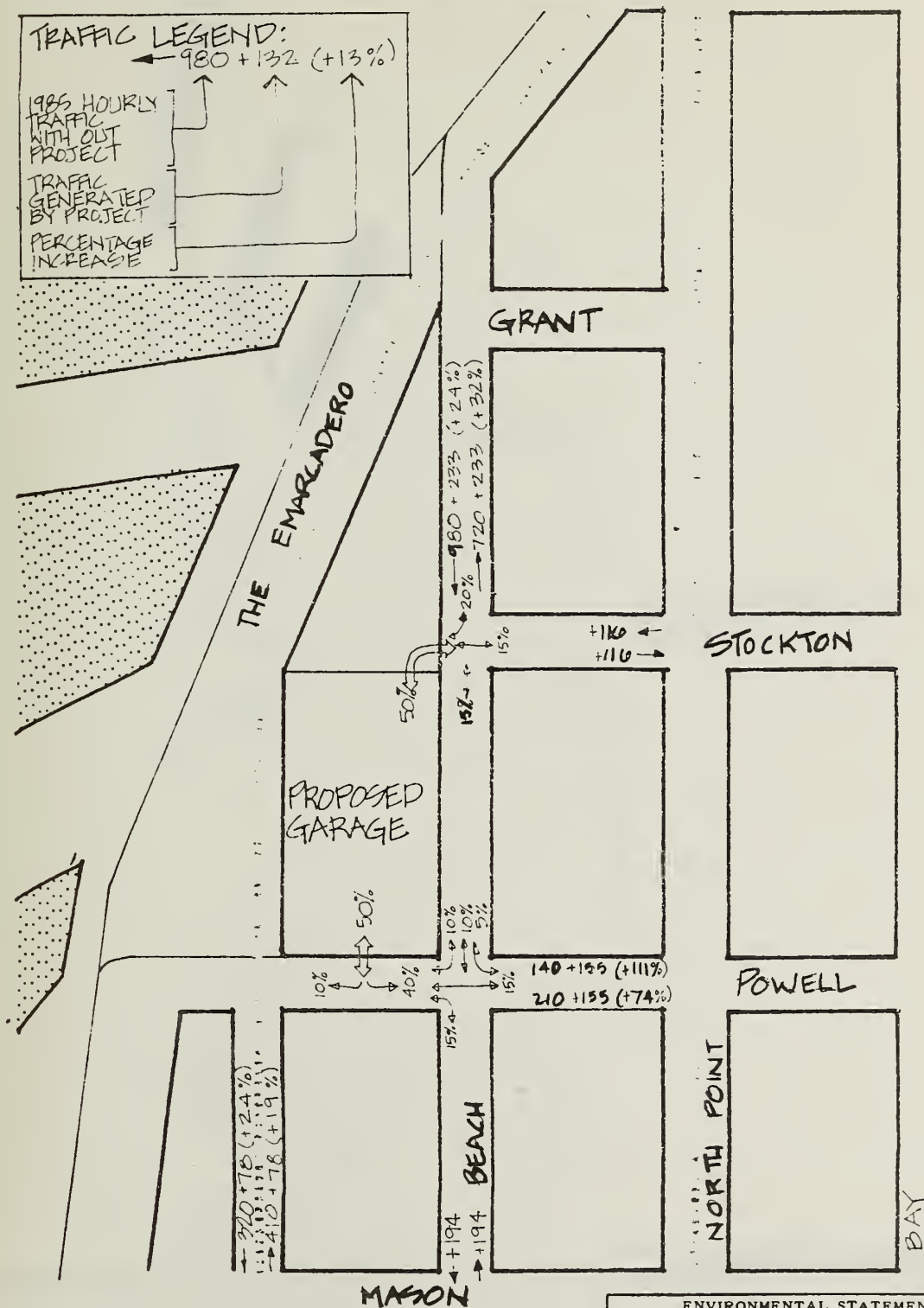
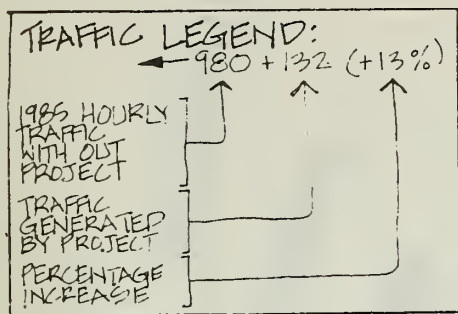
- A: Moderately improved (i.e., an internal shuttle bus within the northern waterfront area from Aquatic Park to the Ferry Terminal).
- B: Significantly improved (i.e., extension of the Mason-Taylor cable car line to the waterfront and bus or rail service between Van Ness Avenue and the Embarcadero BART station).

PLATES

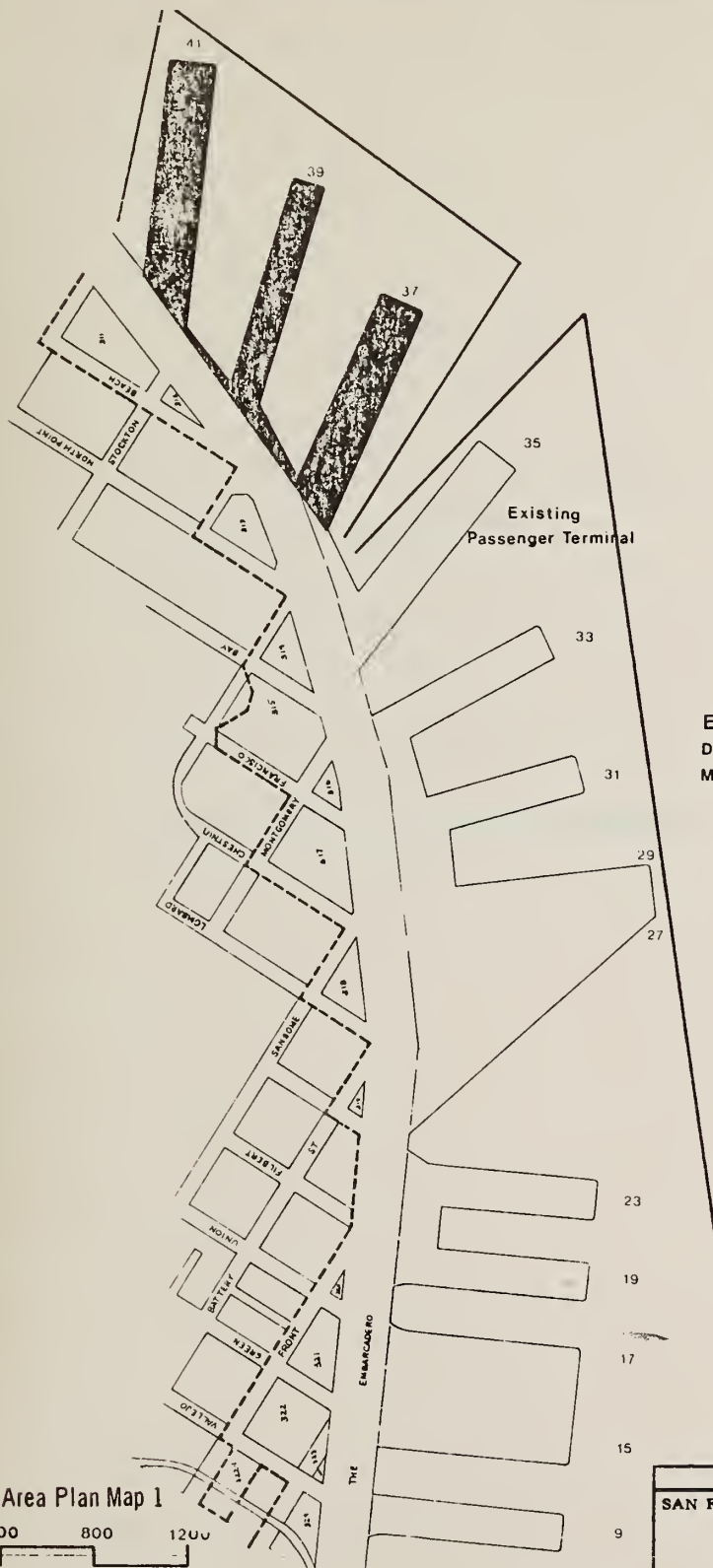




ENVIRONMENTAL STATEMENT	
SAN FRANCISCO COUNTY	CALIFORNIA
NORTH POINT PARK/MARINA	
PEAK HOUR AND 24 HOUR COUNTS	
U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E FILE NO.	
TO ACCOMPANY REPORT DATED DEC. 1976	



ENVIRONMENTAL STATEMENT	
SAN FRANCISCO COUNTY	CALIFORNIA
NORTH POINT PARK / MARINA	
TRAFFIC IMPACT	
U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E	
FILE NO.	
TO ACCOMPANY REPORT	
DATED DEC. 1976	



EXISTING MARITIME USE
Design Plan required when
Maritime phased out

Special Area Plan Map 1



Port Jurisdiction - - -

ENVIRONMENTAL STATEMENT

SAN FRANCISCO COUNTY CALIFORNIA

NORTH POINT PARK/MARINA

SPECIAL AREA PLAN MAP

U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E
FILE NO.

TO ACCOMPANY REPORT
DATED DEC. 1976

APPENDIX A

MISCELLANEOUS SUPPORTING DOCUMENTS

APPENDIX A

MISCELLANEOUS SUPPORTING DOCUMENTS

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A-1	Application from Waterfront Recreation Facilities, Inc. to U.S. Army Corps of Engineers, San Francisco District Dated 1 June 1976 Subject: Regulatory Permit Application	A-1
A-2	Public Notice 74-097-116, 26 March 1974 Hyde Street Pier Maintenance Dredging	A-3
A-3	Public Notice 74-165-135, 2 May 1974 San Francisco Waterfront Maintenance Dredging	A-6
A-4	Public Notice 10690-48, 29 September 1975 Pier 41 Ferry Landing	A-8

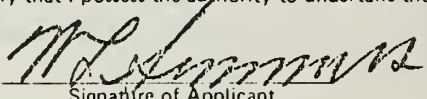
APPENDIX B

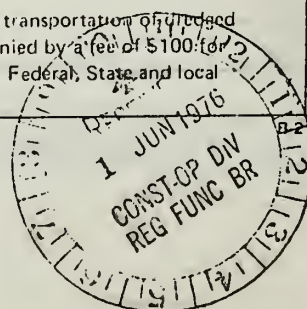
APPLICATION FOR A DEPARTMENT OF THE ARMY PERMIT

One set of original drawings and two copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and checklist).

1. Application number (To be assigned by Corps). 10/15-16		2. Date 1 June 76 (Receptive date) Day Mo. Yr.		3. For official use only.	
4. Name and address of applicant. Waterfront Recreation Facilities Inc. 2101 Third Street San Francisco, California 94107 Telephone number 621-6466 Social Security No.					
5. Name, address, and title of applicant's authorized agent for permit application coordination. Walker & Moody, Architects 2666 Hyde Street San Francisco, Ca. 94109 Telephone Number 885-0800					
6. Describe the proposed activity, its purpose and intended use, including a description of the type of structures, if any to be erected on fills, or pile or float-supported platforms, and the type, composition and quantity of materials to be discharged or dumped and means of conveyance. Marinas for pleasure and sportfishing boats Shops and Restaurants Public Park					
7. Proposed use. Private <input type="checkbox"/> Public <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Other <input type="checkbox"/> (Explain in remarks)					
8. Name and addresses of adjoining property owners whose property also adjoins the waterway. Port of San Francisco					
9. Location where proposed activity exists or will occur Sec. Pier 37, 39, 41 Area Rge (Where applicable) California San Francisco In City or Town Near City or Town State County					
10. Name of waterway at location of the activity. San Francisco Bay					

ENG FORM 4345 REPLACES ENG FORMS 4345 AND 4345-1 (PART A), MAY 71 (EP 1145 2-1)
1 APR 74 AND 4345-1 (PART B), JUN 71, WHICH ARE OBSOLETE.

11. Date activity is proposed to commence. <u>within 12 months</u> Date activity is expected to be completed. <u>2 - 3 years</u>				
12. Is any portion of the activity for which authorization is sought now complete? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If answer is "Yes" give reasons in the remarks section. Month and year the activity was completed _____ . Indicate the existing work on the drawings.				
13. List all approvals or certifications required by other Federal, interstate, state or local agencies for any structures, construction, discharges, deposits or other activities described in this application.				
Issuing Agency	Type Approval	Identification No.	Date of Application	Date of Approval
1. Port of San Francisco				
2. City and County of San Francisco				
3. B.C.D.C.				
4. Regional Water Quality Control Board				
14. Has any agency denied approval for the activity described herein or for any activity directly related to the activity described herein? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (If "Yes" explain in remarks)				
15. Remarks (see paragraph 3 of Permits Pamphlet for additional information required for certain activities). 3a, b, c, d - None 3e - Platforms - see Dames & Moore Report 3f - Pleasure boats and Sportfishing boats. Sewage pump-out as required. No vessel fuel. 3g, h, i, j - None				
16. Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.				
 Signature of Applicant				
<p>18 U.S.C. Section 1001 provides that Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.</p> <p>The application must be signed by the person who desires to undertake the proposed activity; however, the application may be signed by a duly authorized agent if accompanied by a statement by that person designating the agent and agreeing to furnish upon request, supplemental information in support of the application.</p> <p>If the activity includes the discharge of dredged or fill material in navigable waters or the transportation of dredged material for the purpose of dumping it in ocean waters, the application must be accompanied by a fee of \$100 for quantities exceeding 2500 cubic yards and \$10 for quantities of 2500 cubic yards or less. Federal, State and local governments are excluded from this requirement.</p>				



U. S. ARMY ENGINEER DISTRICT, SAN FRANCISCO
CORPS OF ENGINEERS
100 McALLISTER STREET
SAN FRANCISCO, CALIFORNIA 94102

PUBLIC NOTICE NO. 74-97-116

TO WHOM IT MAY CONCERN:

26 March 1974

The Department of Parks and Recreation, State of California, P.O. Box 2390, Sacramento, California 95811 has applied for a Department of the Army permit for maintenance dredging of approximately 9500 cubic yards in San Francisco Bay at the San Francisco Maritime State Historic Park, Hyde Street Pier. The location and details of the proposed work are shown on the drawing which accompanies this notice.

The purpose of this dredging would be to remove the bottom sediment which has accumulated to a depth that prevents the historic ships from remaining free floating. The dredging would be done by clamshell and the dredge spoils would be disposed of at the Corps of Engineers disposal site near Alcatraz Island.

The applicant has applied to the California Regional Water Quality Control Board for the certificate required by the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), and to the San Francisco Bay Conservation and Development Commission for a permit authorizing the proposed work.

A permit issued by the Department of the Army does not give any property rights either in real estate or materials, or any exclusive privileges; and does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining State assent to the work authorized. The decision by the Corps of Engineers whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among those are conservation, economics, aesthetics, general environmental concerns, historic values, fish and wildlife values, flood damage prevention, land use classification, navigation, recreation, water supply, water quality and, in general, the needs and welfare of the people. No permit will be granted unless its issuance is found to be in the public interest.

At this time it does not appear that the proposed activity will require the preparation of an Environmental Impact Statement by the Corps of Engineers.

Interested parties may also submit in writing any objections that they may have to the proposed work. Objections should be forwarded so as to reach this office not later than thirty (30) days from date of this notice. It is Corps' policy to forward such objections to the applicant for resolution or rebuttal. If the objecting party so requests, his name will be deleted from the forwarded letter or the objections will be paraphrased in summary form. In such cases, however, it should be noted that the applicant cannot be requested to resolve such objections directly but can only rebut them by responding to the District Engineer.

J. L. LAMMIE
Colonel, CE
District Engineer

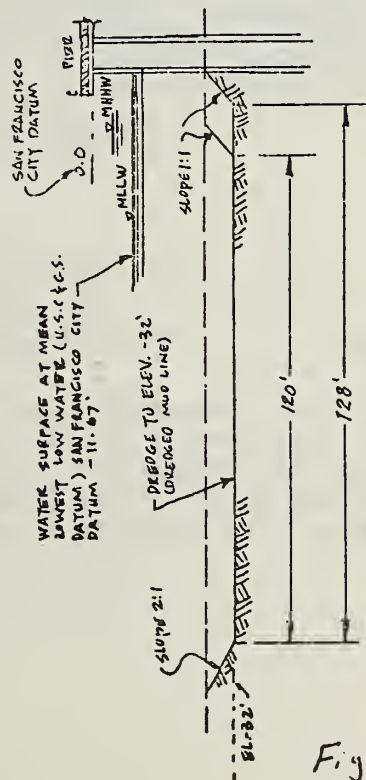
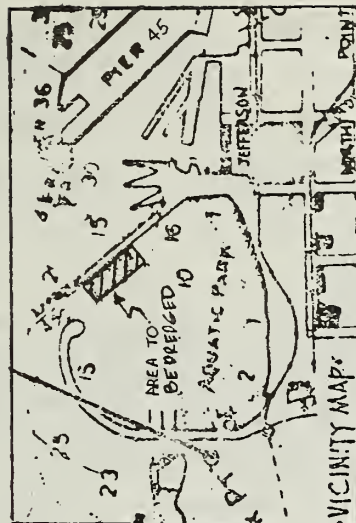
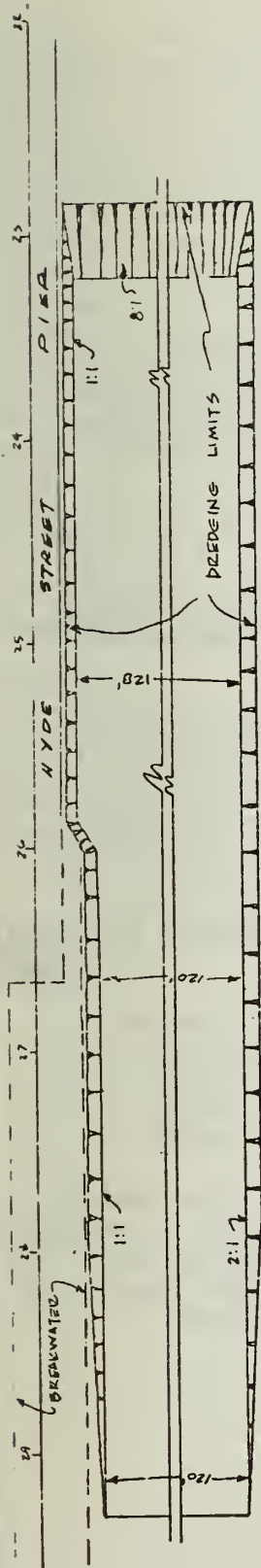


Fig. 1

PROPOSED MAINTENANCE DREDGING
IN SAN FRANCISCO BAY
AT SAN FRANCISCO MARITIME STATE
HISTORIC PARK. HYDE STREET PIER
CITY & COUNTY OF SAN FRANCISCO, CALIF.
APPLICATION BY STATE DEPARTMENT OF
PARKS AND RECREATION
MARCH 1974

U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO
CORPS OF ENGINEERS
100 McALLISTER STREET
SAN FRANCISCO, CALIFORNIA 94102

PUBLIC NOTICE NO. 74-165-135

TO WHOM IT MAY CONCERN:

2 May 1974

The Port of San Francisco, Ferry Building, San Francisco, California 94111 (telephone 415-391-8000) has applied for a Department of the Army permit to perform maintenance dredging along the San Francisco waterfront in San Francisco Bay. The location and details of the proposed work are shown on the drawing which accompanies this notice.

The work would consist of dredging of approximately 500,000 cubic yards of bottom material on the waterfront from Aquatic Park in the north to India Basin in the south. Dredging would be by clamshell and the spoils would be disposed of at the Alcatraz disposal site. The dredging would be to a depth of 40 feet below mean lower low water (MLLW) unless otherwise noted on the drawing.

Sediment analyses were made at several points along the waterfront to be dredged. Tabulated below in column two are the limits allowed by Region IX of the Environmental Protection Agency for certain parameters in spoils deposited at the Alcatraz disposal site. Also listed below are the ranges of these parameters in the sediment samples taken. All values are expressed in parts per million (ppm).

<u>Parameter</u>	<u>Alcatraz Limits (ppm)</u>	<u>Range of Test Results (ppm)</u>
Mercury	1.5	.249-.91
Cadmium	3	less than 2
Lead	75	2.5-15
Zinc	195	130-443
Oils and Grease	2250	160-580

The San Francisco Bay Conservation and Development Commission of the State of California has issued Permit No. 35-71 authorizing the proposed work. The applicant has applied for a renewal of this permit. The applicant has applied to the California Regional Water Quality Control Board for the certificate required by the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500).

A permit issued by the Department of the Army does not give any property rights either in real estate or materials, or any exclusive privileges; and does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining State assent to the work authorized. The decision by the Corps of Engineers whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among those are conservation, economics, aesthetics, general environmental concerns, historic values, fish and wildlife values, flood damage prevention, land use classification, navigation, recreation, water supply, water quality and, in general, the needs and welfare of the people. No permit will be granted unless its issuance is found to be in the public interest.

At this time it does not appear that the proposed activity will require the preparation of an Environmental Impact Statement by the Corps of Engineers.

Interested parties may submit in writing any objections that they may have to the proposed work. Objections should be forwarded so as to reach this office not later than thirty (30) days from date of this notice. It is the Corps' policy to forward such objections to the applicant for resolution or rebuttal. If the objecting party so requests, his name will be deleted from the forwarded letter or the objections will be paraphrased in summary form. In such cases, however, it should be noted that the applicant cannot be requested to resolve such objections directly but can only rebut them by responding to the District Engineer.

J. L. LAMMIE
Colonel, CE
District Engineer



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
100 McALLISTER STREET
SAN FRANCISCO, CALIFORNIA 94102

REPLY TO
ATTENTION OF:

SPNCO-R

29 September 1975

PUBLIC NOTICE NO. 10690-48

TO WHOM IT MAY CONCERN:

1. Harbor Carriers, Incorporated, c/o Environmental Impact Planning Corporation, 319 Eleventh Street, San Francisco, California 94103 (telephone 415-626-9034) has applied for a Department of the Army permit to construct a passenger ferry landing adjacent to Port of San Francisco Pier No. 41, in San Francisco Bay (Central), City and County of San Francisco California.
2. Sheet 1, attached, contains a location map with plan, and detail views of the proposed walkway, ramp, float, and dolphins. Sheet 2 is an **elevation** view of the proposed ferry landing showing its position **relative to** existing Pier No. 41.
3. The proposed ferry landing would be the new San Francisco **terminus** for Harbor Carriers' Alcatraz Island Ferry Service. Such service is **pre-**sently provided at the existing Harbors Carriers ferry landing (at Pier 43 1/2) but the applicant states that it would be advantageous to eventually segregate Alcatraz, Angel Island, and "Bay Cruise" traffic. (Angel Island traffic will eventually be moved to Pier 43.) The floating dock would be a steel structure 750 square feet in area and would be attached to three dolphins, each consisting of 6 treated wood piles. Four additional piles would be driven to support the proposed walkway. A wheeled steel ramp would connect the walkway and the floating dock.
4. The applicant has also applied for certification by the California Regional Water Quality Control Board and for a permit from the San Francisco Bay Conservation and Development Commission (BCDC). Authorizations for the proposed activity have been received by the Port of San Francisco and the city of San Francisco Planning Department.
5. In accordance with the requirements of the National Environmental Policy Act of 1969 (PL 91-190), the Corps has evaluated the environmental aspects of the proposed activity. There would be a temporary increase in noise and turbidity during construction of the proposed landing. An increase in local noise and auto traffic in the Pier 41 vicinity could also be expected. However, such noise and traffic presently exists at Pier 43 1/2 and these impacts would essentially be relocated to (rather than created by) the proposed Pier 41 landing. From an analysis of these

29 September 1975

impacts it has been determined that the activity would have no significant adverse effect on the quality of the human environment.. Therefore, at this time it does not appear that the preparation of an Environmental Impact Statement (EIS) by the Corps will be necessary.

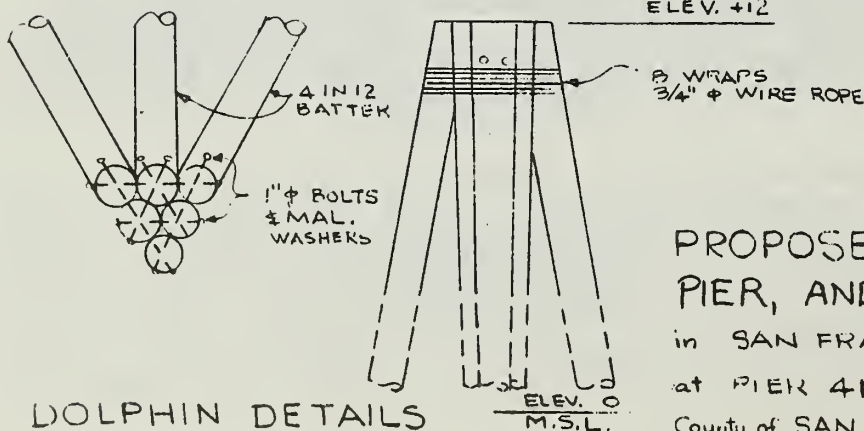
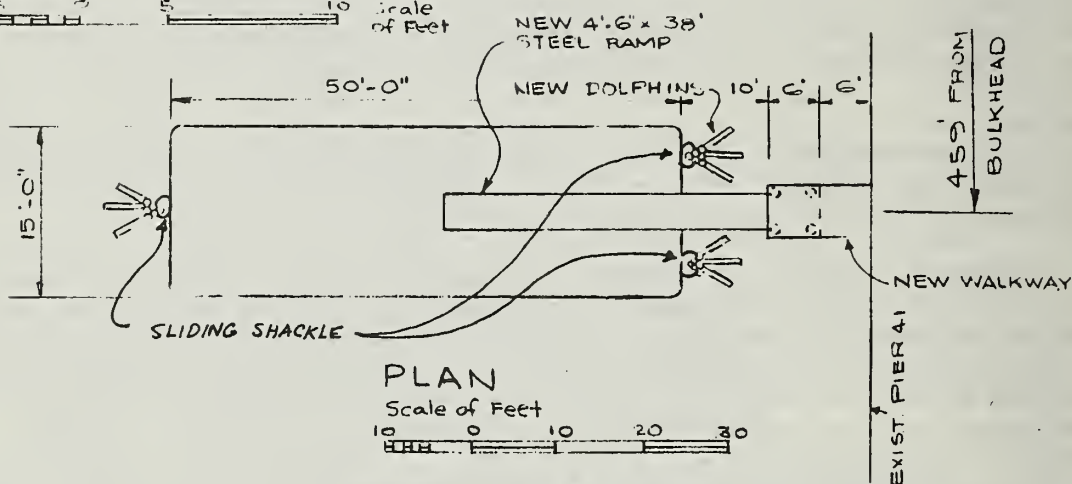
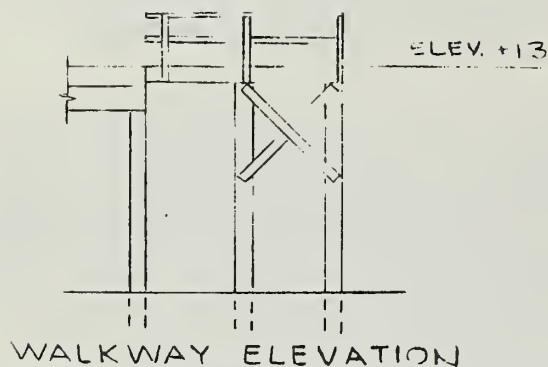
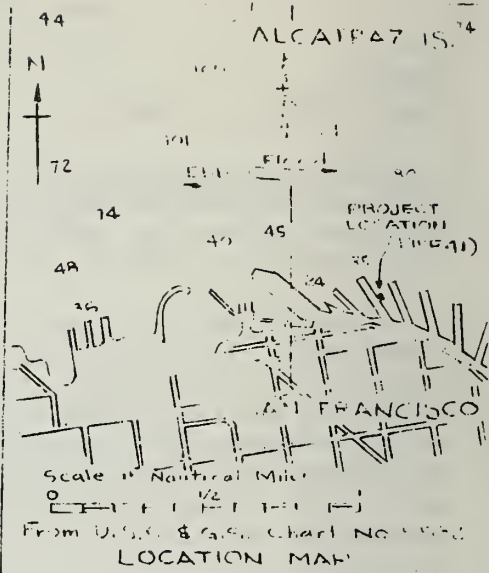
6. A permit issued by the Department of the Army does not give any property rights either in real estate or materials, or any exclusive privileges; and does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State, or local laws or regulations, nor does it eliminate the necessity of obtaining State assent to the work authorized. The decision by the Corps of Engineers whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among those are conservation, economics, aesthetics, general environmental concerns, historic values, fish and wildlife values, flood damage prevention, land use classification, navigation, recreation, water supply, water quality and, in general, the needs and welfare of the people. No permit will be granted unless its issuance is found to be in the public interest.

7. Interested parties may submit in writing any comments that they may have on the proposed work. Comments should include the number and date of this notice and should be forwarded so as to reach this office within thirty (30) calendar days. It is the Corps' policy to forward any such comments which include objections to the applicant for resolution or rebuttal. If the objecting party so requests, his name will be deleted from the forwarded letter or the objections will be paraphrased in summary form. In such cases, however, it should be noted that the applicant cannot be requested to resolve such objections directly but can only rebut them by responding to the District Engineer. Details of any changes of a minor nature which are made in the final permit action will be provided on request.

H. A. FLERTZHEIM, JR.
Colonel, CE
District Engineer

PN 10690-48

ALCAIZAS IS.



PROPOSED DOLPHINS,
PIER, AND STEEL RAMP
in SAN FRANCISCO BAY, CENT.
at PIER 41

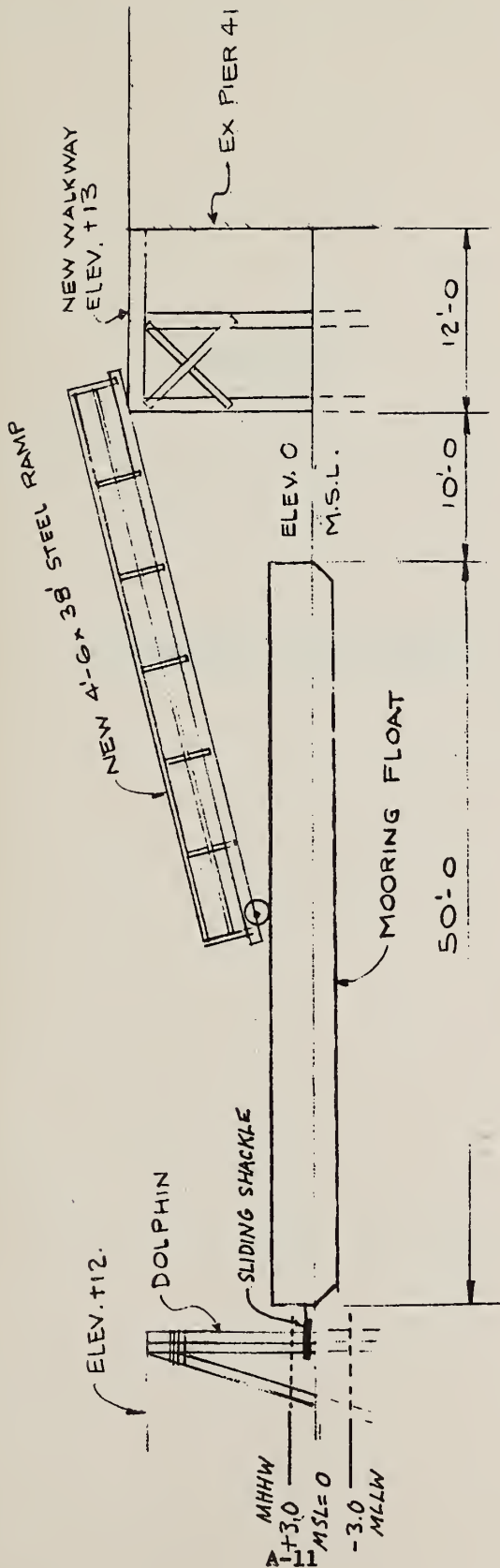
County of SAN FRANCISCO State CALIF.
Application by HARBOR CARRIERS INC.

Sheet 1 of 2

Date JUL 75

DATUM USCGS 1929 MSLD

A-10



SECTION AT CENTER OF RAMP & WALKWAY

PROPOSED DOLPHINS, PIER,
AND STEEL RAMP
IN SAN FRANCISCO BAY, CENT.
at PIER 41
County of SAN FRANCISCO State CALIF.
Application by HARBOR CARRIERS INC.
Sh. 2 of 2 Date 30 JUL. '75

SCALE: $\frac{3}{32}'' = 1'-0''$
DATUM USCG&S 1929 MLD

APPENDIX B

ENVIRONMENTAL IMPACT REPORT

FINAL
ENVIRONMENTAL IMPACT REPORT
Proposed North Point Park/Marina
San Francisco, California

EE 75.368

Volume 1
Text of Final EIR

Adopted by
San Francisco City Planning Commission
Resolution No. 7548

August 26, 1976

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Richard Gryziec, 741 North Point, San Francisco	
Winnifred McCarthy, Apartment House Associations Consolidated	
Robert Berner, Foundation for San Francisco's Architectural Heritage	
Steve Wyker, San Francisco Junior Chamber of Commerce	
Hugh William Griffith	
Betty Rader, Telegraph Hill Dwellers Environment Committee	
Lieutenant Commander J. L. Hair, Assistant Chief, Marine Environmental Protection Branch, U.S. Coast Guard	
B. C. Bachtold, Deputy District Director, California Department of Transportation	
Jean F. Kortum, Landmarks Advisory Board	
James J. Finn, Director of Transportation, San Francisco Public Utilities Commission	
William G. Kirkham, Management Systems Officer, State Clearinghouse	
Milton Feldstein, Deputy Air Pollution Control Officer, Bay Area Air Pollution Control District	
Margheritta Stagnaro, 1869 Stockton Street, San Francisco	
Charles R. Roberts, Executive Director, San Francisco Bay Conservation and Development Commission	
Colonel H. A. Flertzheim, Jr., District Engineer, Department of the Army, San Francisco District, Corps of Engineers	
Rai Okamoto, Director of City Planning	
Dr. Selina Bendix, Environmental Review Officer, Department of City Planning	
City Planning Commission:	
Gordon Lau	
Susan Bierman	
Ina Dearman	
Thomas Mellon	
Toby Rosenblatt	
Charles Starbuck	

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SUMMARY

Waterfront Recreation Facilities, Inc., a subsidiary of Tia Maria, Inc., has prepared a development plan for the waterfront area from Pier 37 through Pier 41 and on Seawall Lots 311 and 312, on San Francisco's Northern Waterfront. The major elements of the project would be:

Pier 37: A waterfront park built over the salvaged area.

Pier 39: 133,000 square feet of restaurants and 67,000 square feet of retail shops.

Pier 41: The section of Pier 41 covered by the Development Agreement would be removed. A fixed breakwater would be constructed in this area, which would provide public walking and fishing activities.

Parking: A parking garage on Seawall Lot 311 (Beach and Powell Streets), providing parking for 1,000 cars.

Marina: A marina for small pleasure craft--250 berths--in the water area between Piers 39 and 35. Sport-fishing berths between Piers 39 and 41, accommodating 40 60-foot berths or 60 smaller ones.

Park: The park would be 5.4 acres with the Embarcadero closed and 4.2 acres with it open. Park areas would be maintained by the project developer. The emphasis of the park would be on open public walking areas (e.g., cobblestone plaza with intermittent raised landscaping).

The following impacts would be associated with the completed project:

Seismic activity could damage the proposed project.

Changes to existing current patterns caused by the construction of breakwaters would probably cause increased sedimentation within the project site.

To the extent that the project increased the sedimentation rate in the immediate area, resulting in a subsequent need for maintenance dredging, it would increase the potential for disturbance of the aquatic environment.

Increased traffic in the area would cause increases in local concentrations of carbon monoxide.

The project would increase the demand for such City services as water supply and wastewater treatment.

Additional traffic generated by the project would increase street traffic loads throughout the northern waterfront.

The project could affect existing commercial-retail uses in the immediate area.

The potential for open space use of the site would be reduced.

Mitigation measures to lessen the potential impact of the project would include:

Provision of public waterfront access where this is not now available.

Breakwater design to minimize wave and tidal action on facilities and boats.

Reuse of salvageable material from existing piers.

Compliance with the San Francisco Noise Ordinance.

Alternative uses for the site include proposals in compliance with the BCDC or Northern Waterfront Plans, development of the entire site as public open space, and reducing the size of the garage.

A history of past proposals for use of the site is outlined.

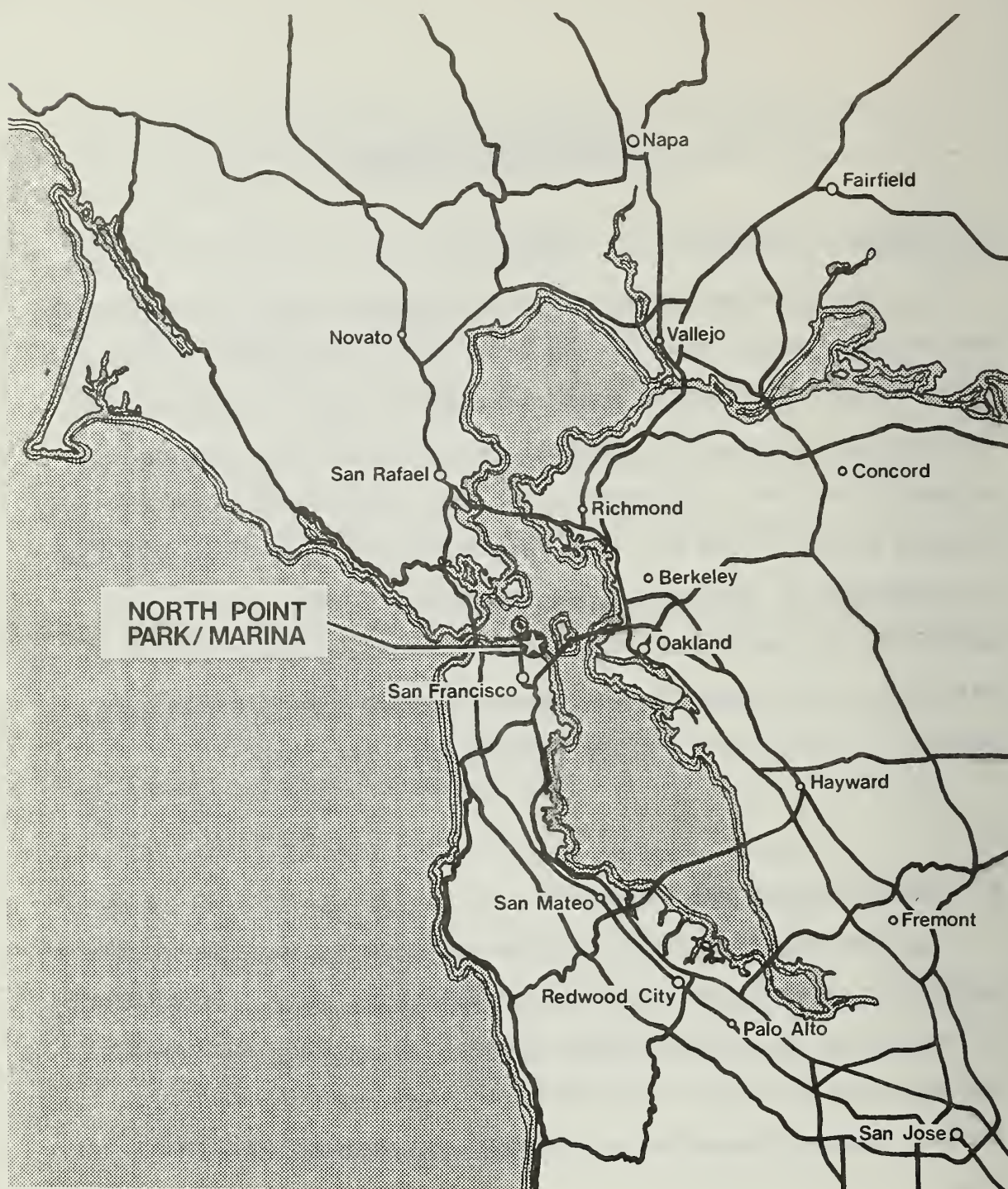
I. PROJECT DESCRIPTION

A. LOCATION (Figures 1, 2, and 3)

The proposed North Point Park/Marina would be located on the northern waterfront of the City and County of San Francisco, California. The project area consists of Piers 37 and 39, the eastern half of Pier 41, Seawall Lots 311 and 312 (Assessor's Blocks 15 and 16), and portions of the Embarcadero right of way between Piers 37 and 41. The entire project area is within the jurisdiction of the Port of San Francisco. This area of the waterfront is about half a mile north of Telegraph Hill and a third of a mile east of the corner of Taylor and Jefferson Streets, in the heart of the Fisherman's Wharf area.

B. OBJECTIVES OF THE APPLICANT

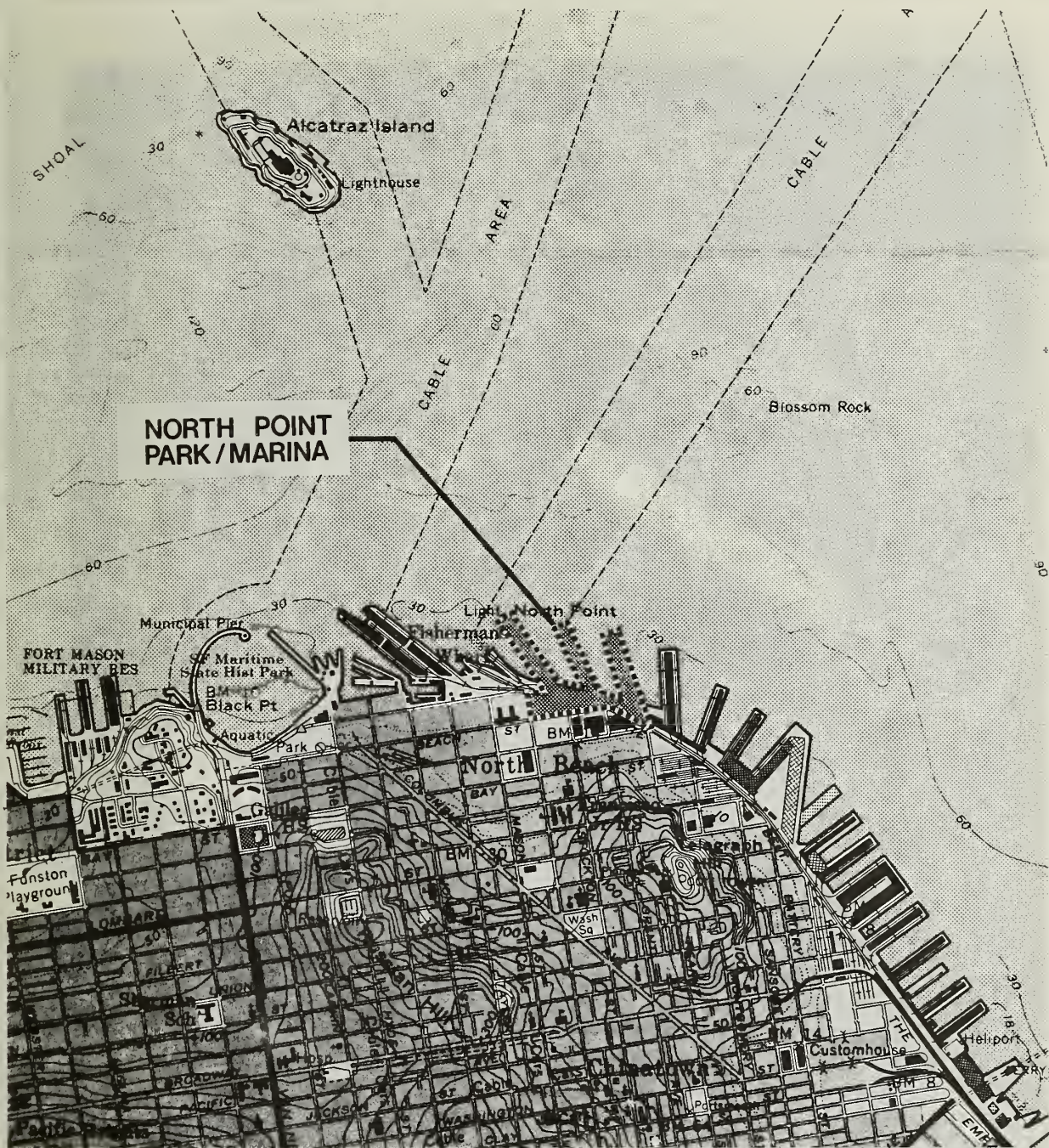
The major objective of the proposed project is to make a profit for Waterfront Recreation Facilities, Inc., a subsidiary of Tia Maria, Inc. Additional objectives include encouraging recreational and retail opportunities and sport fishing and boating along the northern waterfront by developing North Point Park.



REGIONAL LOCATION MAP



FIGURE 1

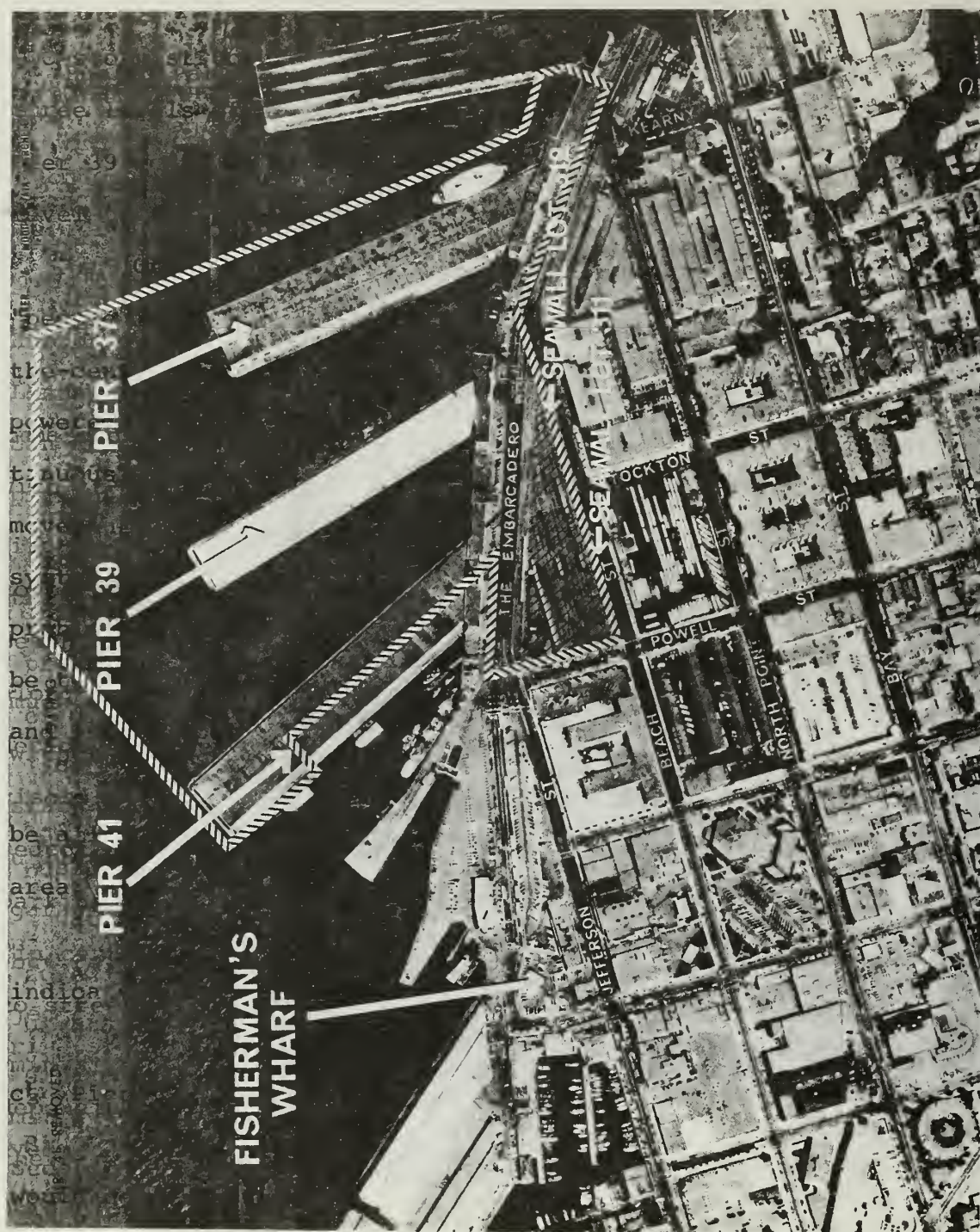


TOPOGRAPHIC MAP

U. S. Geological Survey



FIGURE 2



AERIAL SITE PLAN



FIGURE 3

C. PROJECT CHARACTERISTICS (Figure 4)

The proposed project would contain the following:

1. Development

a. Pier 37

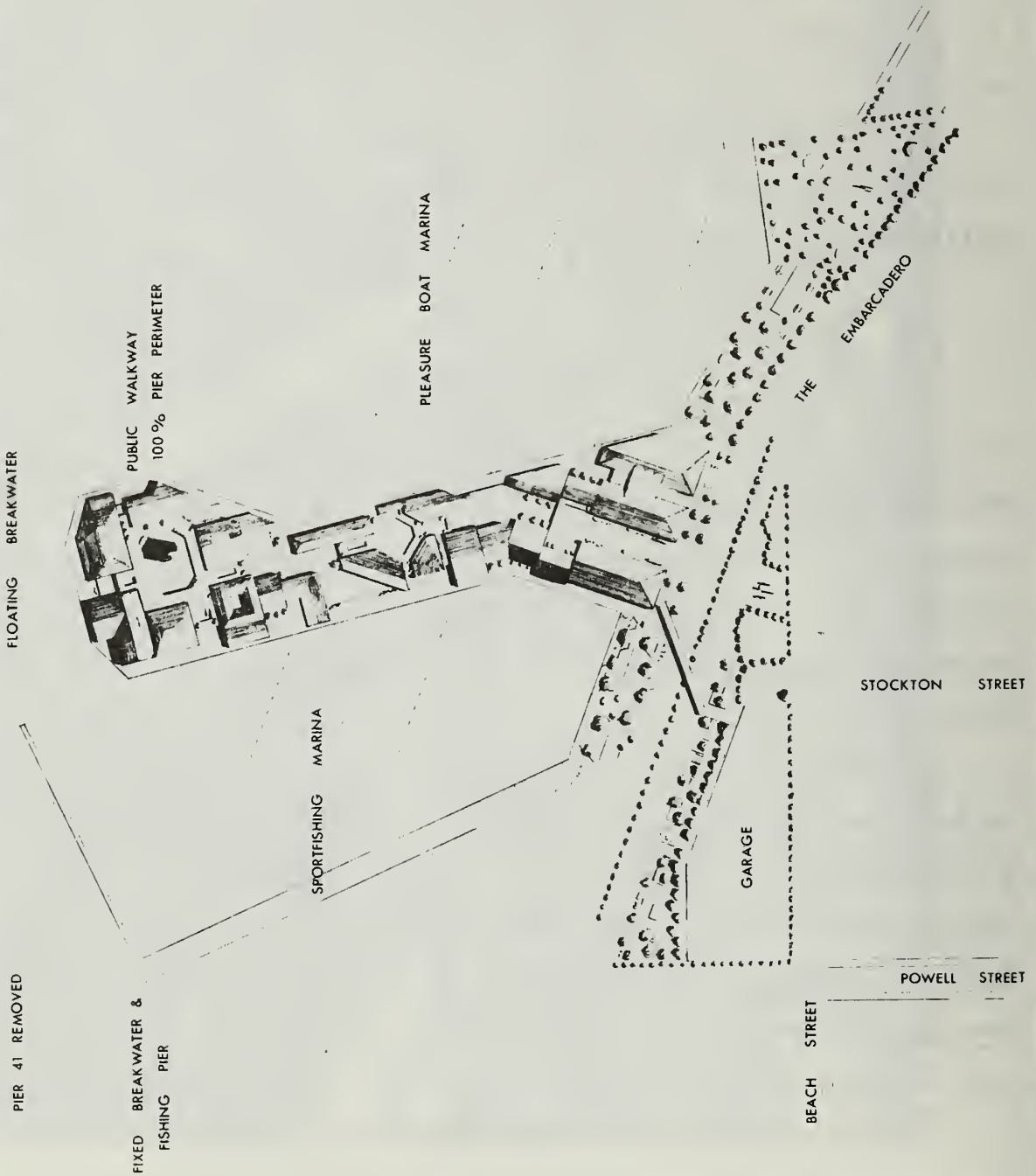
A small section of Pier 37 was salvaged after a fire that destroyed most of the pier. The waterfront park would be built over this salvaged section.

b. Pier 39

The development of Pier 39 would include a total of 200,000 square feet of new retail commercial development. About two-thirds of the space, or 133,000 square feet, would be food service facilities; the remaining third, or 67,000 square feet, would be small retail shops and other commercial recreation such as theaters, small amusement rides, exhibits, and artisans at work.

All structures, to the greatest extent possible, were to be built with wood salvaged from demolition of the structures on Piers 37 and 39 to emphasize the maritime character of the site. Because old lumber on Pier 37 was destroyed in a fire, the developer is currently negotiating with the Port of San Francisco to obtain lumber from other surplus piers. Alternative piers have not yet been identified.

The restaurants and shops would be a combination of one- and two-story structures, built on two levels. If there were a



SITE PLAN



FIGURE 4

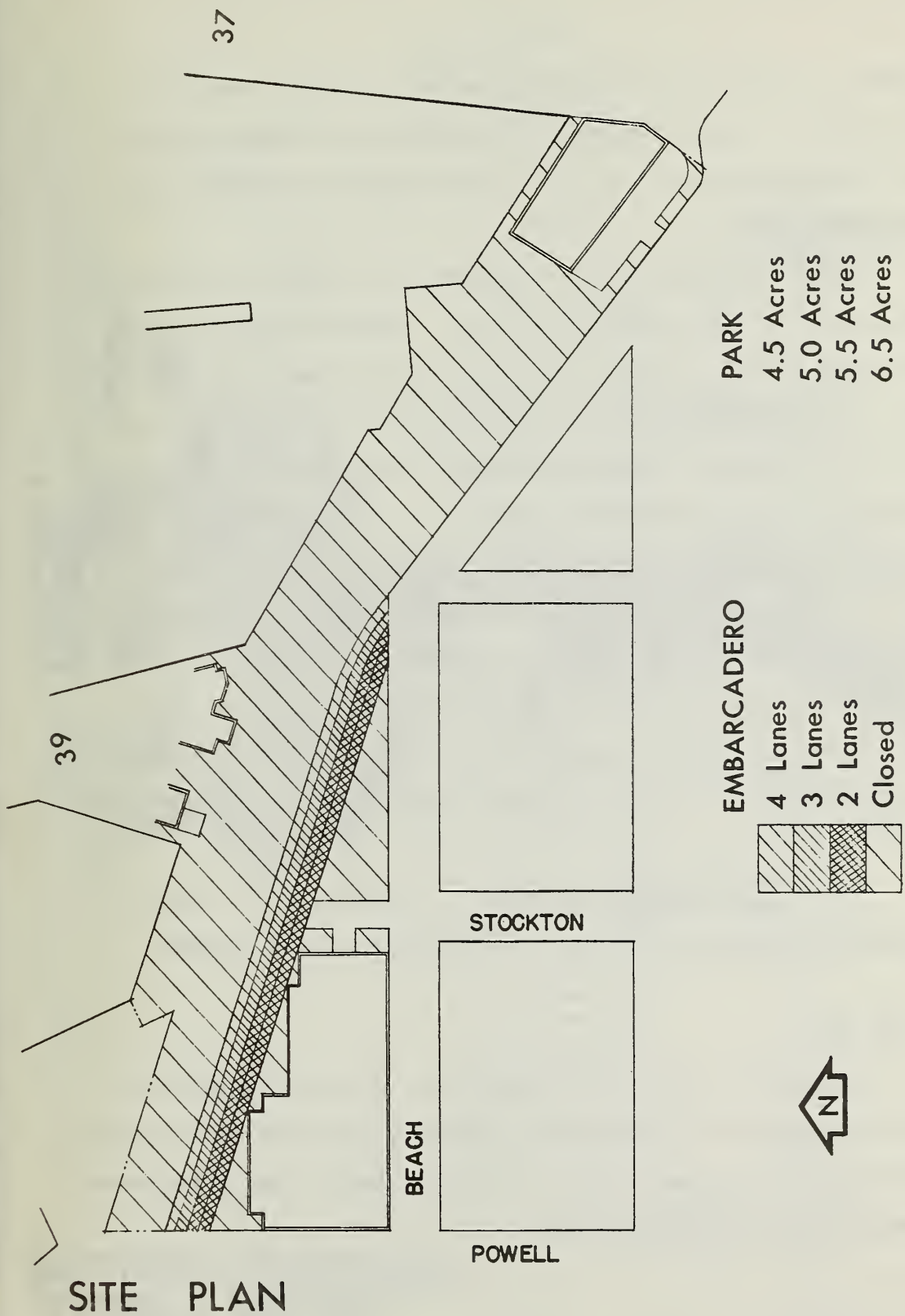


FIGURE 4a

two-story structure on the second level, it would result in three levels of construction. The pedestrian walkway around Pier 39 would be about four feet lower than the present deck level of the pier.

Other aspects of the development of Pier 39 include a "people mover" system, which could be a rubber-tired, turn-of-the-century type of vehicle, or a series of slow-moving battery-powered "people movers". This people mover system would continuously circle the periphery of Pier 39 to facilitate the movement of people along the length of the Pier. Whatever system were used for this purpose would not present a noise problem, since a major objective of the selected system would be to eliminate as much noise as possible. See Figures 5, 6, and 7 for types of "people movers" under consideration.

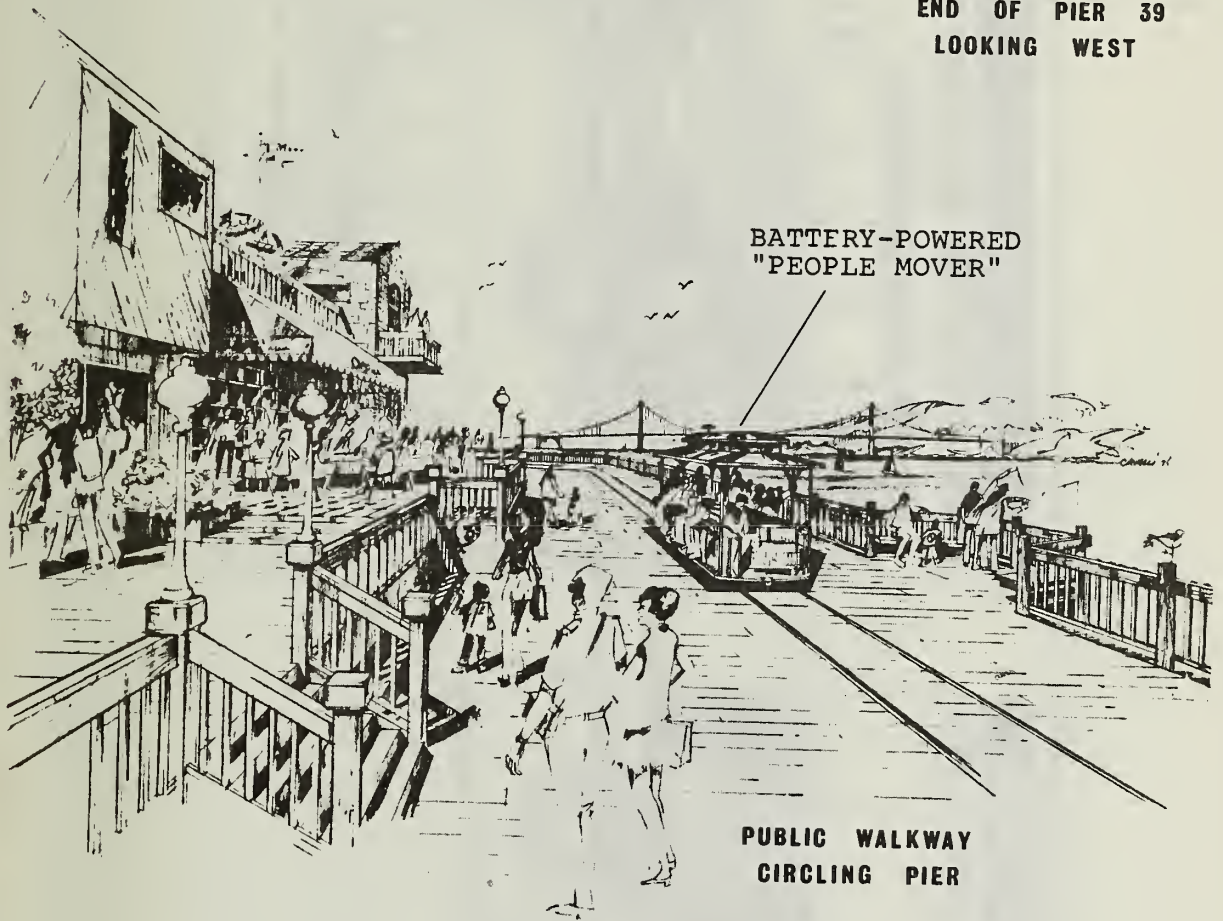
Service access to commercial spaces on the pier would be allowed before 11:30 a.m. along the walkway and people-mover area.

The project renderings shown in Figures 8, 9, and 10 indicate the appearance of various elements of the project.

c. Pier 41

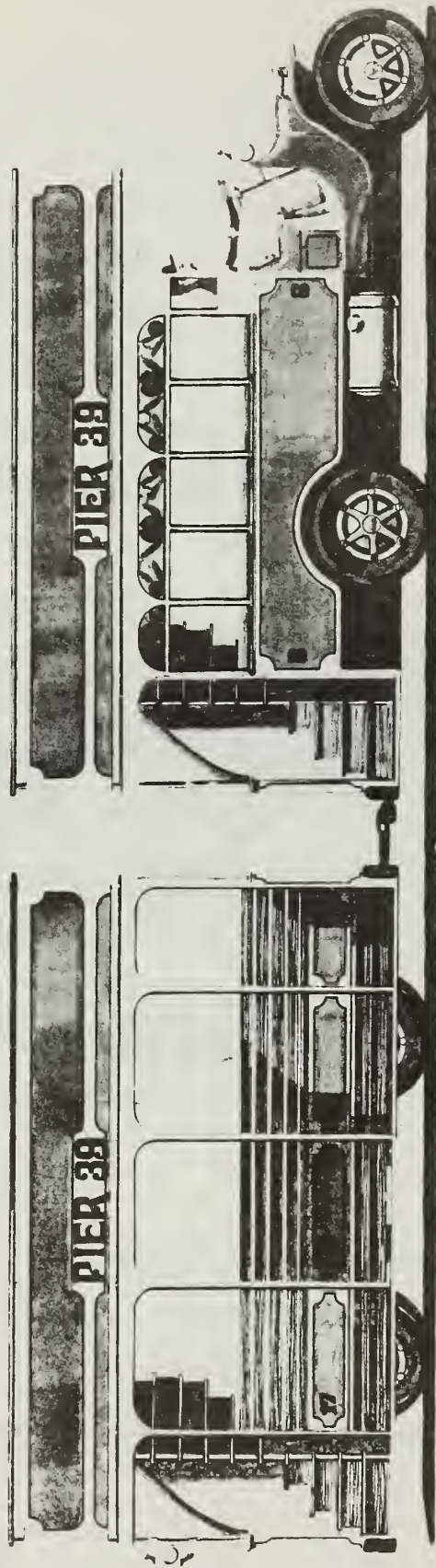
All of Pier 41 would be removed. A fixed breakwater would be constructed in this area, which would provide for public walking and fishing activities. This breakwater would be about 730 feet long and 40 feet wide.

END OF PIER 39
LOOKING WEST



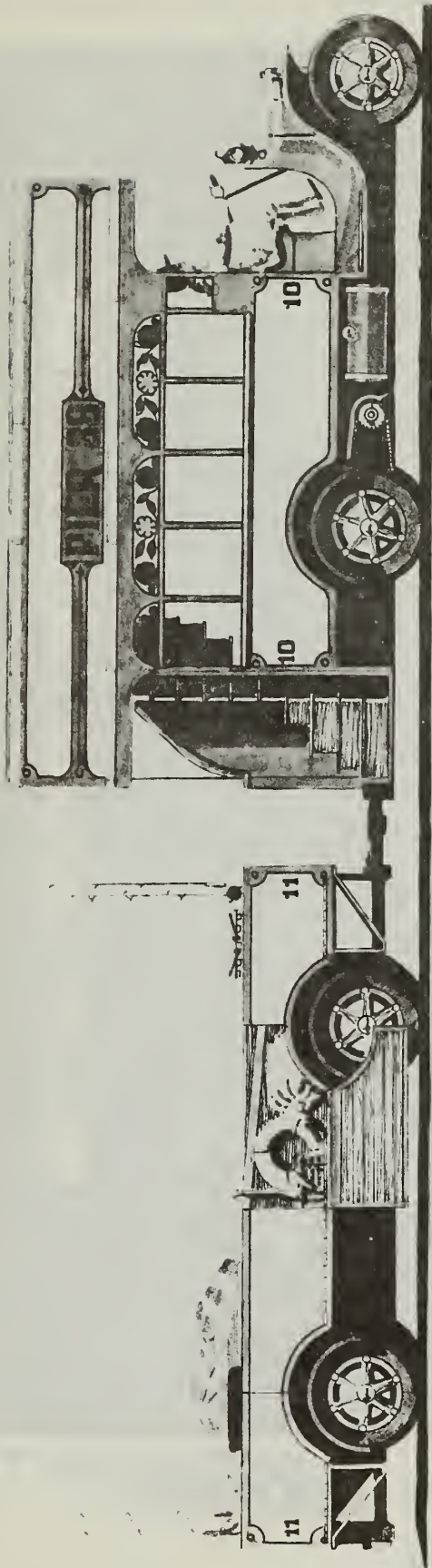
**BATTERY-POWERED
"PEOPLE MOVER"**

FIGURE 5



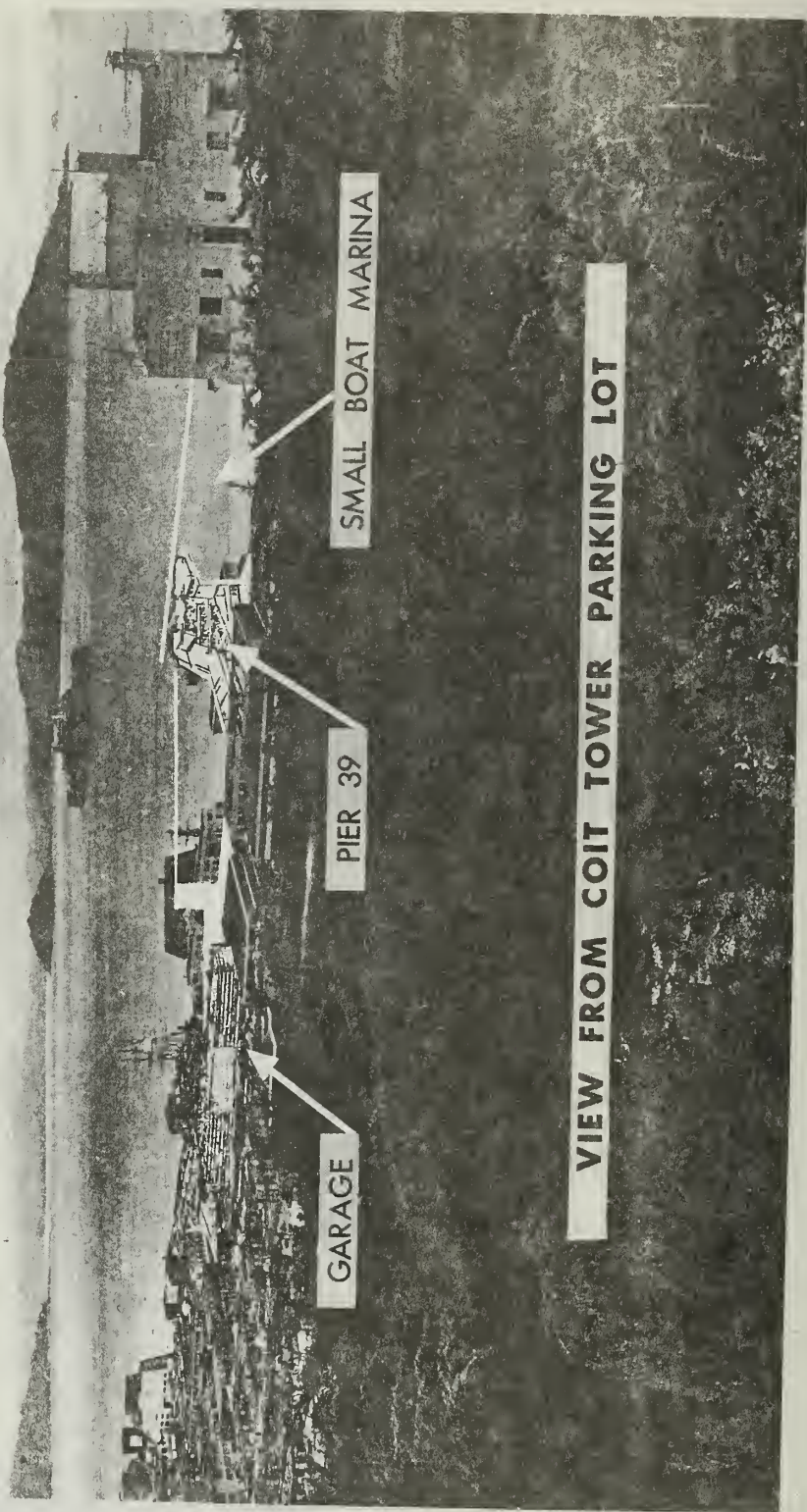
"PEOPLE MOVER" WITH TRAILER FOR PEOPLE

FIGURE 6



"PEOPLE MOVER" WITH TRAILER FOR SAILS, FISHING GEAR, SUPPLIES, ETC.

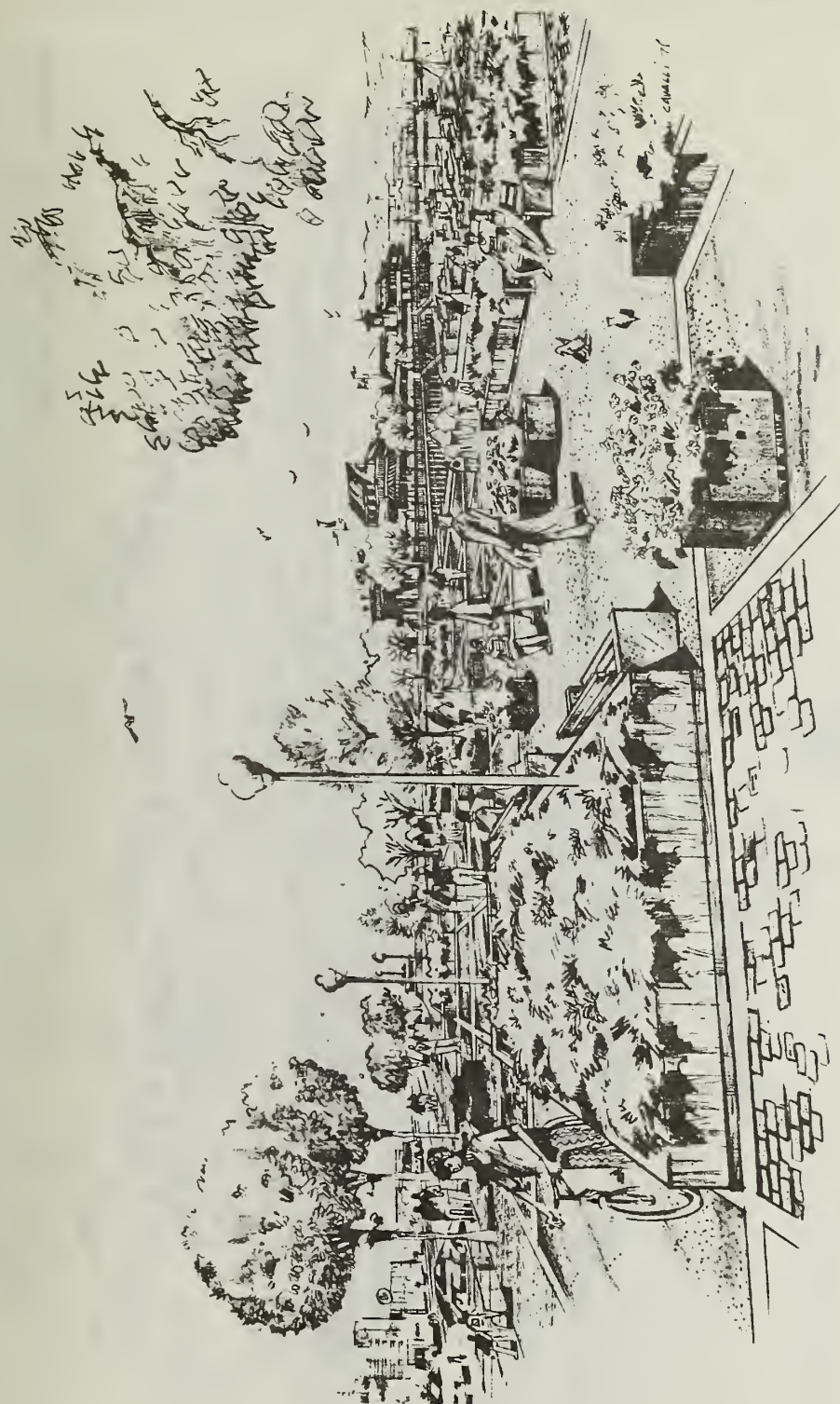
FIGURE 7



**PROPOSED PROJECT LOOKING
NORTH-NORTHWEST**

FIGURE 7a

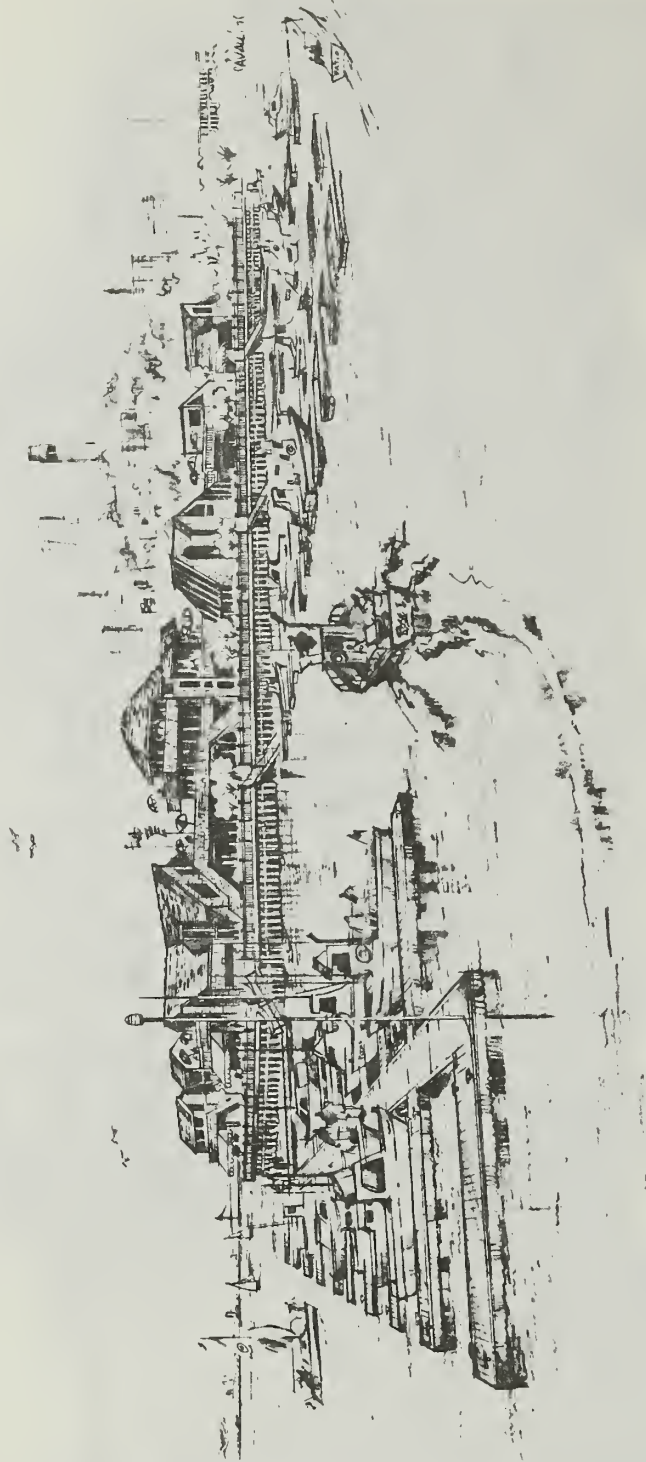
PROJECT RENDERING



PARK AREA LOOKING WEST

FIGURE 8

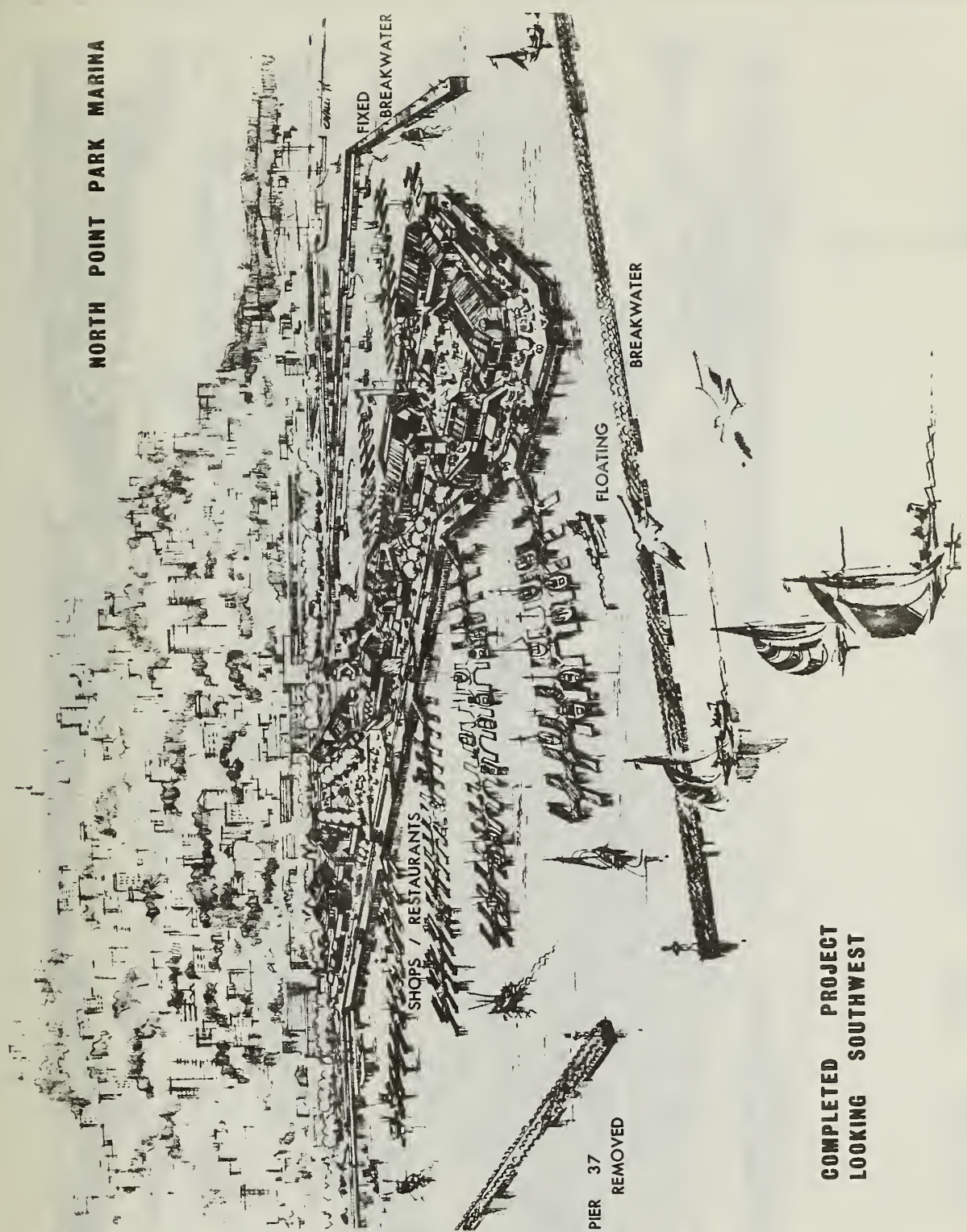
PROJECT RENDERING



PROJECT LOOKING SOUTHEAST

FIGURE 9

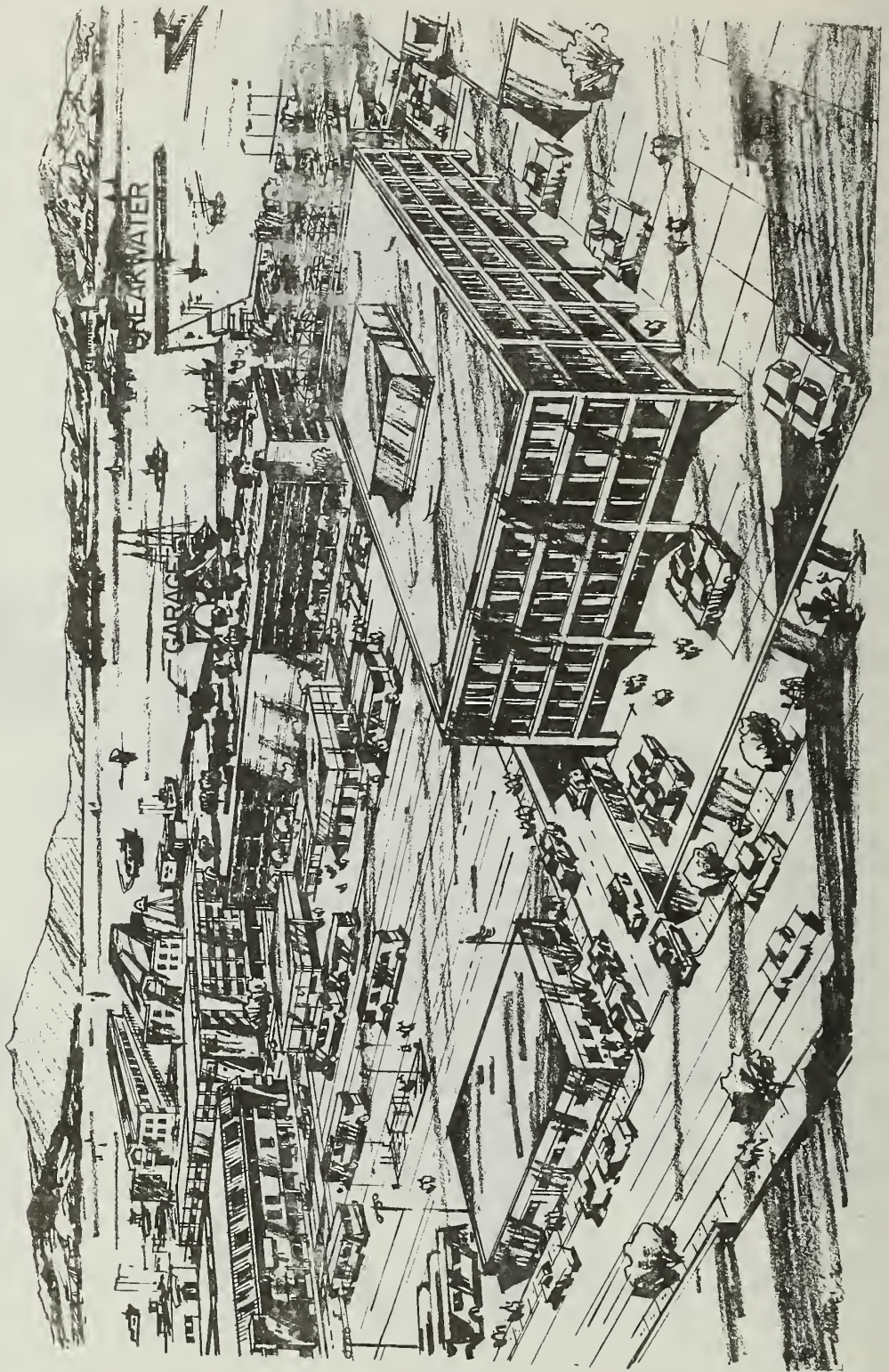
NORTH POINT PARK MARINA



**COMPLETED PROJECT
LOOKING SOUTHWEST**

PROJECT RENDERING

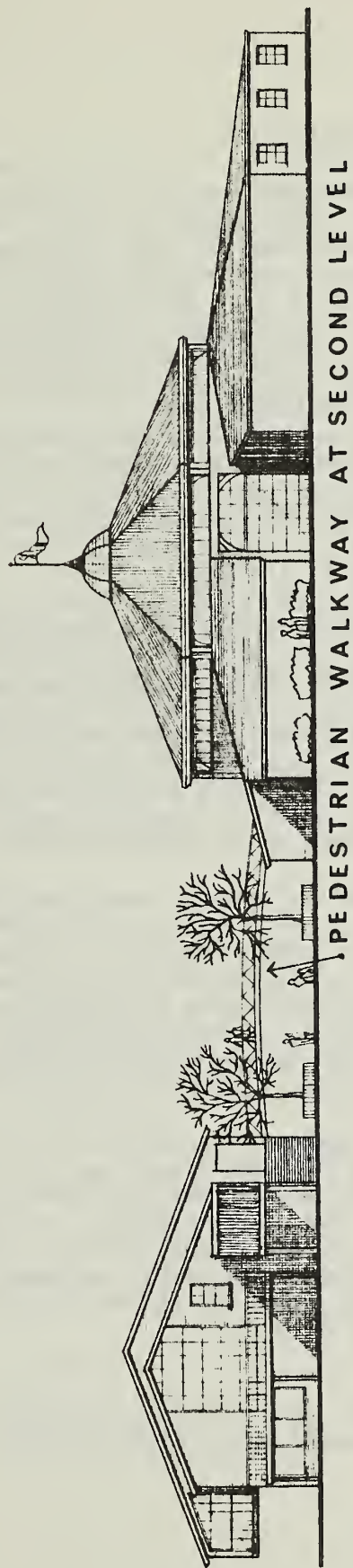
FIGURE 10



Project Rendering

VIEW FROM SOUTH SHOWING GARAGE
AND FIER 41 BREAKWATER

FIGURE 10 a



SOUTH ELEVATION

0 20 40 feet

VIEW FROM THE EMBARCADERO

FIGURE 10b

2. Public Park Area and Open Space

A major component of the project is the waterfront park, which would extend along the bulkhead of the southeastern edge of Pier 37 to the midpoint of Pier 41. The emphasis of the park would be on open public walking areas (e.g., cobblestone plaza with intermittent raised landscaping).

The total size of the park would depend on whether the Embarcadero were closed or open. The park would be 5.4 acres with it closed and 4.2 acres with it open.

The original project plans called for the Embarcadero to be closed west of Grant Avenue, with traffic rerouted along Beach Street. The necessity of keeping some traffic lanes open along the Embarcadero in the Fisherman's Wharf area would be decided by the City Planning Commission and the Board of Supervisors. Any area closed to traffic and/or available due to the reduction in the number of rail tracks would be converted to park use. The Department of Public Works and the Port Authority (in certain locations) would also be involved in actions relating to street changes.

Total open space in the project would be 7.6 or 8.8 acres, depending on what is done with the Embarcadero. In addition to the park, open space would include the public walkway along the perimeter of the development on Pier 39.

3. Marina

a. Facilities

To the west, between Piers 39 and 41, 40 to 60 sport-fishing berths would be provided (40 60-foot boats or 60 smaller ones, or a comparable combination). There would probably be a combination, resulting in roughly 50 berths. This marina area would be equipped with electricity, water, and sanitary facilities. The retail space of the proposed project would contain a bait shop for sport fishermen.

A small boat marina with space for 250 boats would be provided between Piers 37 and 39.

A system of fixed and floating breakwaters would be used to protect the sport-fishing marina. The preliminary design features of these breakwaters are described in Appendix A.

b. Marina Design

The marina facilities would consist of a berthing basin for sport-fishing and recreational vessels. Boat slips would be of treated wood-frame or other construction with concrete, fiberglass, or plastic flotation. Slips would be stabilized against horizontal movement by concrete or timber piles driven into the bottom. Piles would be replaced at about every fourth slip and their top elevation would be about 12+ feet mean lower low water¹

¹Lower low water: The lower of the two low tides along coasts where the two daily low tides are unequal.

(MLLW), enabling the entire berthing assembly to rise and fall with the tide.

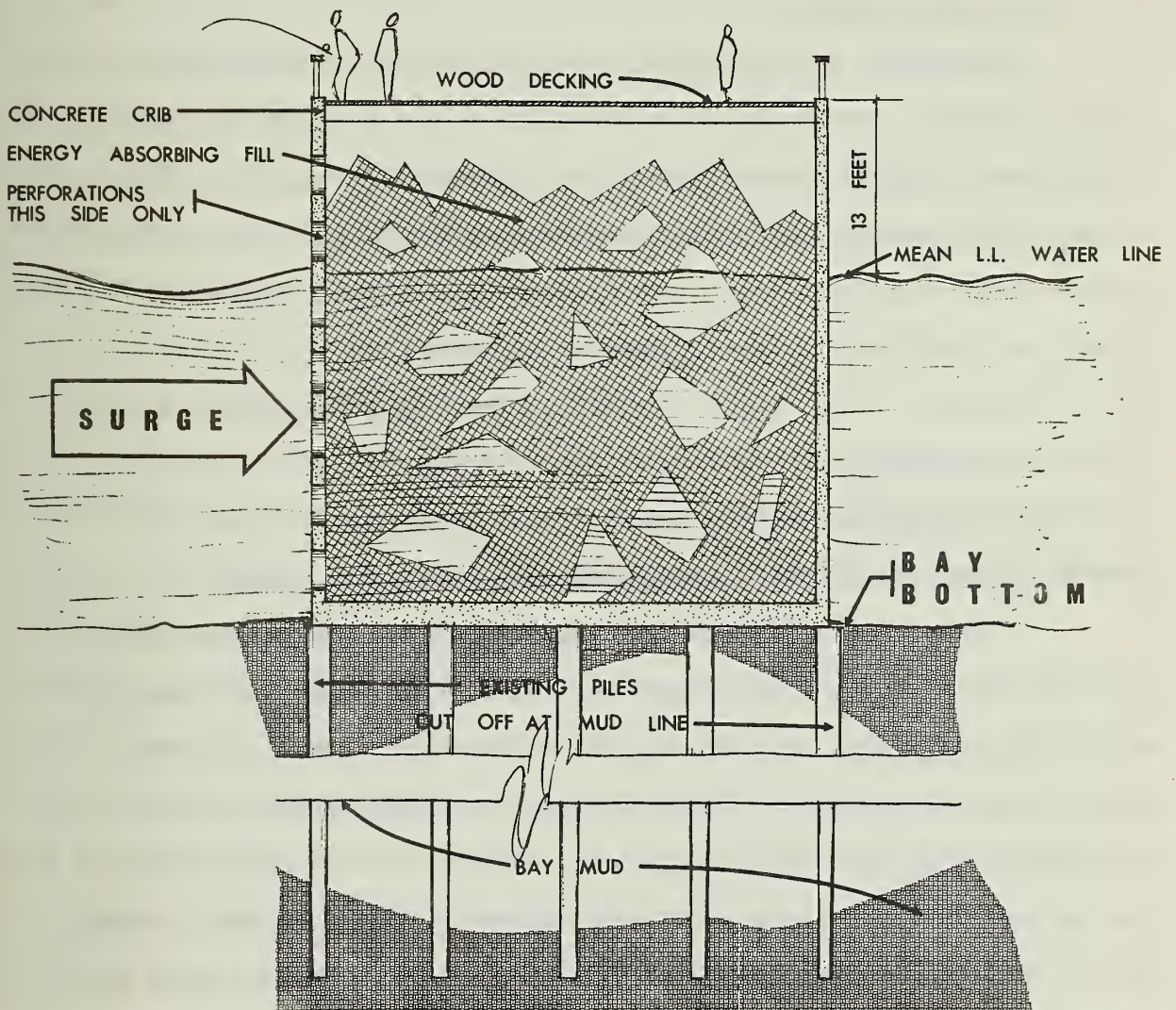
The berthing area would be protected from damaging wave attack by a breakwater system designed to limit wave heights within the marina basin to one foot or less. The breakwater structure, which would require a BCDC permit, would consist of a combination of solid and floating units.

The main access walkways would be equipped with electric lighting, fresh water and electric outlets, telephone connections, and small storage lockers. In addition, sewage pump-out facilities would be provided to service the boats' waste holding tanks.

c. Breakwater Protection

Figure 11 shows the breakwater protection being considered to protect the berthing basins. A solid, fixed breakwater parallel to Pier 41 would extend bayward about 740 feet and then eastward at a right angle for an additional 450 feet. This partly permeable section of breakwater is intended to attenuate the deep ocean swell that passes through the Golden Gate. The remainder of the basin would be protected by floating breakwaters designed to attenuate short-period waves generated in the Central Bay along the northwest clockwise through easterly fetches. See Appendix A for more detailed descriptions of solid and floating breakwaters.

SECTION THRU FIXED BREAKWATER PIER 41



BREAKWATER SECTION

FIGURE 11

4. Parking Facilities

A parking garage would be constructed on Seawall Lot 311 with a maximum height of 40 feet which would provide parking for 1,000 cars, or the number permitted by the City Planning Commission. One hundred fifty of these spaces would be allotted to Harbor Carriers, Inc., and the Golden Gate Scenic Steamship Lines, as required in the contract agreement with the Port of San Francisco. The "people mover" system (see page 10) would pick up passengers at the south end of Pier 39, or at the garage if the Embarcadero roadway were closed to through vehicular traffic, and would make designated stops along the pier.

The use of concrete on the garage would be minimized as much as possible by using heavy wooden guard rails, in keeping with the waterfront atmosphere to be created. The horizontal slabs would be concrete, but wherever possible wood would be utilized in the vertical elements. The objective is for the garage not to look like a typical large concrete parking garage, but rather to reflect the maritime character of the overall project. To the extent feasible, the garage should be designed to minimize a bulky, massive appearance. No parking would be permitted on the project area except within the parking garage. Security in the garage structure would be provided by closed-circuit television and a security patrol.

The garage would also include an additional 3,500 square feet of commercial, office, and service facilities for management

and employees of the project area. This 3,500 square feet would be provided on the north side of the garage and should be at the park level.

The total gross square footage of new management, office, restaurant, and retail shops outlined in the preceding paragraphs would total 203,500 square feet.

5. Existing Site Uses to Remain

The Eagle's Cafe, the Crow's Nest Cafe, and the Sea Habitat Development are within the project area and under separate lease to the Port. Upon termination of leases with the Port, they would need to negotiate with the developer for continued occupancy. The Crow's Nest Cafe was partly destroyed in the Pier 37 fire but has been rebuilt. It is also possible that the submarine Pompanito, currently being acquired by the San Francisco Maritime Museum, and the Recoverer, an oil skimmer operated by the Crowley Interests, would be berthed within the project area, depending on negotiations with the developer.

6. Construction Scheduling

It is estimated that the development would cost \$20 million. All development aspects are included in the estimated cost, including the construction of the breakwaters and parks. Expected annual costs for maintenance of the breakwaters and parks are not available. Street construction and/or relocation

and moving of the rail track would not be the responsibility of the developer.

Construction of the entire project would take twelve (12) to twenty-four (24) months. Final completion of the project would depend primarily on tenant demand.

Fill removed:

Pier 37	179,800 square feet
Pier 41	<u>132,500</u>

Total removed	312,300 square feet
---------------	---------------------

Fill added:

Pier 39	110,000 square feet
Pier 41: fixed breakwater	30,000
floating breakwaters	59,500
small boat berths & marina	<u>50,000</u>

Total added	249,500 square feet
-------------	---------------------

Net fill removed:	62,800 square feet
-------------------	--------------------

Pier 39 will be widened over the Bay in order to accommodate the pedestrian walkway; this widening is included in the 110,000 square feet itemized above.

D. RELATIONSHIP TO LOCAL AND REGIONAL PLANS

The proposed development comes under the primary jurisdiction of three government agencies: the Port of San Francisco, the City and County of San Francisco, and the San Francisco Bay Conservation and Development Commission. All have adopted master plans.

1. Port of San Francisco

The Burton Act of 1968 provided for the transfer of the Port from direct State control to control by the City and County of San Francisco. Section 3 empowers the Harbor Commission, among other things, to grant leases for periods not exceeding 66 years, if the Commission determines that the transferred lands are not required for harbor improvement, commerce and industry, or various other listed uses, "for the purposes of such development and use as the commission finds will yield maximum profits to be used by the commission in furtherance of commerce and navigation."¹ The California Statutes of 1971 amended the above to read, "for the purposes of such development and use as the commission finds to be in the public interest, with monies therefrom to be used by the commission in the furtherance of commerce and navigation."²

¹ Statutes of California 1968, Chapter 1333, p. 2546.

² Statutes of California 1971, Chapter 1253, p. 2464.

Under the Port's Master Plan (August 1970), which describes areas for maritime and nonmaritime use, the project area is designated for nonmaritime development. On September 10, 1975, the Port Commission approved a Development Agreement with the applicant, Waterfront Recreation Facilities, Inc., for development of the area described above. No later than 24 months from the date of the agreement a 60-year lease would be granted by the Port to the applicant for the above property. The actual uses and the approximate quantity of each use are specified in the Development Agreement. It is also specified in the lease that the developer agrees to use his best effort to secure necessary finances, permits, waivers, variances, and approvals to satisfy all the

requirements concerning the development, as well as to develop the property in such a way as to maximize revenues to the Port (i.e., development of total project). Minimum yearly revenues to the Port would be \$370,000.

2. City and County of San Francisco

By City Charter, nonmaritime uses of Port property are subject to the City's land use controls as administered by the Department of City Planning.

a. The Comprehensive Plan

A number of policies contained in the different elements of The Comprehensive Plan apply to the proposed project. One element, the Northern Waterfront Plan, adopted June 19, 1969, by the San Francisco Planning Commission, was formulated specifically to guide future development in this area in a manner consistent with the interests of San Francisco. The policies of this and other elements relating to development within the project area are noted by the Department of City Planning in the memorandum "Staff guidelines for development: North Point Park and Marina," October 1, 1975 (see Appendix B). The planning staff prepared these guidelines for the development of the project site based on its interpretation of the policies promulgated throughout The Comprehensive Plan.

In these guidelines, one major conflict with the Northern Waterfront Plan is brought up:

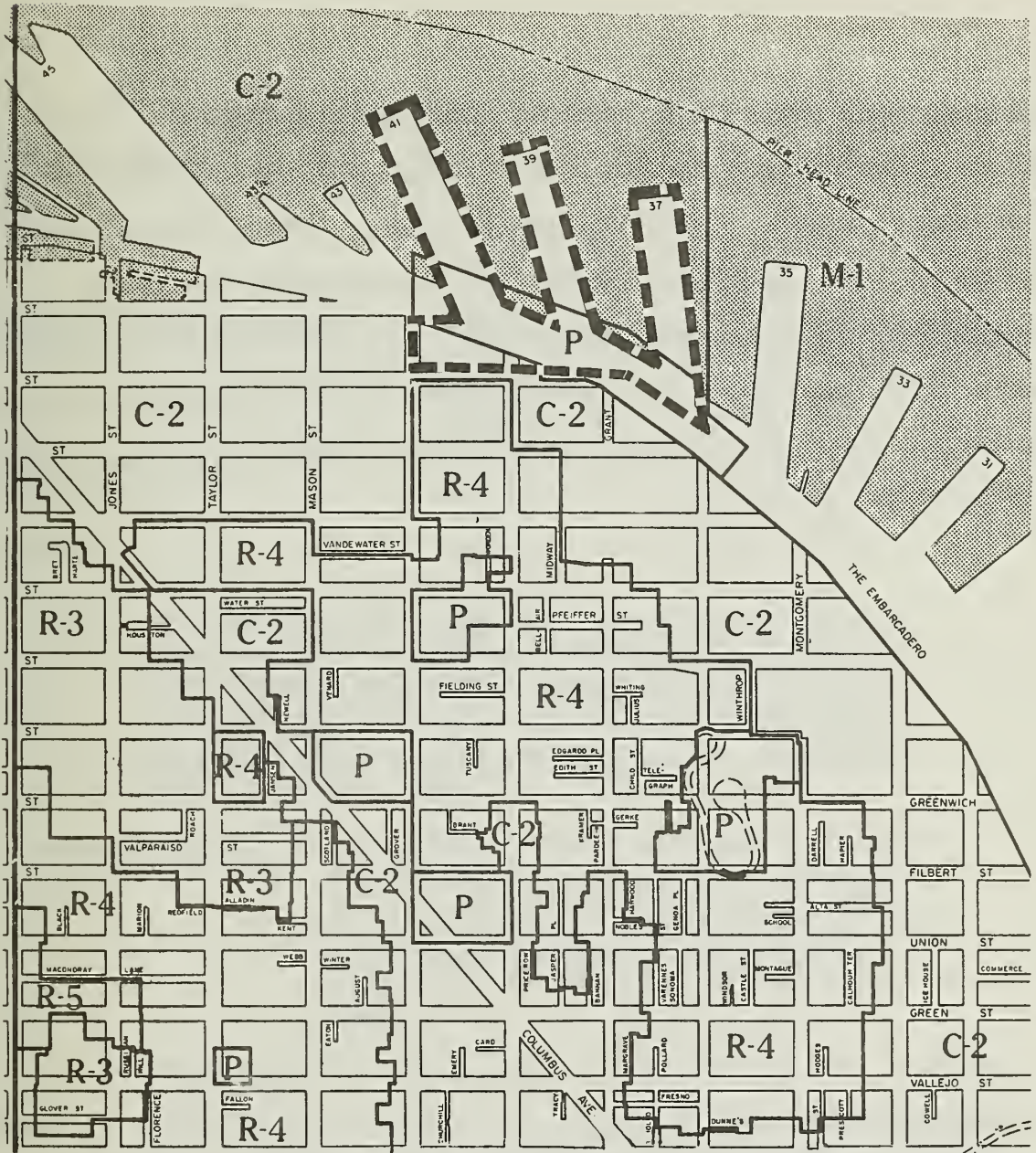
The Northern Waterfront Plan, part of the Comprehensive Plan of San Francisco, designates the shoreline area and The Embarcadero right-of-way at this site as major public open space and the pier area as retail commercial and entertainment with major public access along the perimeter of any pier development. A park on the shoreline would be consistent with the objectives and policies of the Northern Waterfront Plan; however, a small boat marina or sport fishing marina is not specifically permitted by this Plan and a small boat marina would not be consistent with the BCDC Special Area Plan. An amendment to the Comprehensive Plan will be required for development of any marina in this area. . .¹

The Northern Waterfront Planning staff of the Department of City Planning is currently reviewing the planning considerations for the northern waterfront area. Part of this review includes the Fisherman's Wharf Area Transportation Study, now in progress. This study evaluates, among other issues, the question of closing or narrowing the Embarcadero, the improvement of public transit to the Wharf, and the creation of North Point Park.

b. City Planning Code

Along the northern waterfront the Code establishes normal zone districts as well as the requirements of a Special Use District. As shown in the zoning map (Figure 12), the project site covers two zone districts: P (Public Use), the site of the

¹San Francisco Department of City Planning, "Staff guidelines for development: North Point Park and Marina," October 1, 1975 (Appendix B to this EIR).



ZONING MAP

San Francisco City Planning Code Zoning Map, 1972



FIGURE 12

planned North Point Park, and C-2 (Community Business).¹ Conflicts exist between the proposed project and the current zoning that would require a zone reclassification. The principal conflicts are the small boat marina (not a permitted use but a conditional use), and the configuration and size of North Point Park, which was proposed in the Northern Waterfront Plan to extend 150 feet beyond the bulkhead on a platform.

¹The San Francisco City Planning Code describes these districts as follows:

- P: Land that is owned by a government agency and in some form of public use, including open space.
- C-2: Districts that provide for convenience goods and services to residential areas of the city and comparison shopping goods and services on a general or specialized basis to city-wide or regional market area, complementing the main area for such types of trade in downtown San Francisco.

The following restrictions apply to the site under current zoning:¹

	<u>P</u>	<u>C-2</u>
Height and bulk district	(OS - open space)	40-X (40-foot height limit; no bulk limit)
Floor area ratio	None	4.8:1
Maximum permitted floor area	None	2,425,234 square feet
Coverage	None	100 percent

Note: The established height limit would preclude the possibility of achieving the total permitted floor area; conditions established in any City Planning Commission approval for a development would probably further reduce permitted floor area and limit permitted coverage to less than that allowed by code.

Parking/loading: Off-street parking and truck loading requirements for a project reviewed on a conditional-use basis are determined by the Zoning Administrator and City Planning Commission based on criteria set forth in the Planning Code.

In Northern Waterfront Special Use District No. 1 (Port property: Hyde Street Pier to the Bay Bridge), waterborne commerce and navigation uses and uses directly related to them are permitted as principal uses. Any nonmaritime uses on Port

¹San Francisco Department of City Planning, "Staff guidelines for development: North Point Park and Marina," October 1, 1975 (Appendix B).

property would require a Conditional Use Approval by the City Planning Commission; therefore, such a permit would be required for the proposed project.

3. San Francisco Bay Conservation and Development Commission (BCDC)

Special Area Plans, under BCDC regulations, apply any or all of the policies in the San Francisco Bay Plan in greater detail to a specific geographic area. On April 17, 1975, BCDC adopted Special Area Plan No. 1: San Francisco Waterfront. This plan, which is an extension of the Bay Plan, is intended to serve as a general guide for nonmaritime development on the waterfront by specifying permitted uses for replacement fill. BCDC has jurisdiction over shoreline areas, including piers, located within 100 feet of the Bay from the line of highest tidal action.

The uses permitted in the Special Area Plan for Piers 37, 39, and 41 are maritime, public recreation, open space, public access, limited commercial recreation, and a hotel if built in conjunction with a new passenger terminal on Pier 35.

Conflicts exist with the inclusion of the small boat marina of the proposed project, which is not a permitted use in this area under the Plan. The 200,000 square feet of commercial development would be more than incidental to park and open space use; therefore, it would conflict with the BCDC Plan. Both the Special Area Plan and the Northern Waterfront Plan envision a major park/open space area at this location. Amendments to both

these plans would be needed to proceed with the project, since BCDC cannot approve a project that is inconsistent with the McAteer-Petris Act, the Bay Plan, or the Special Area Plan.

4. Other Agencies

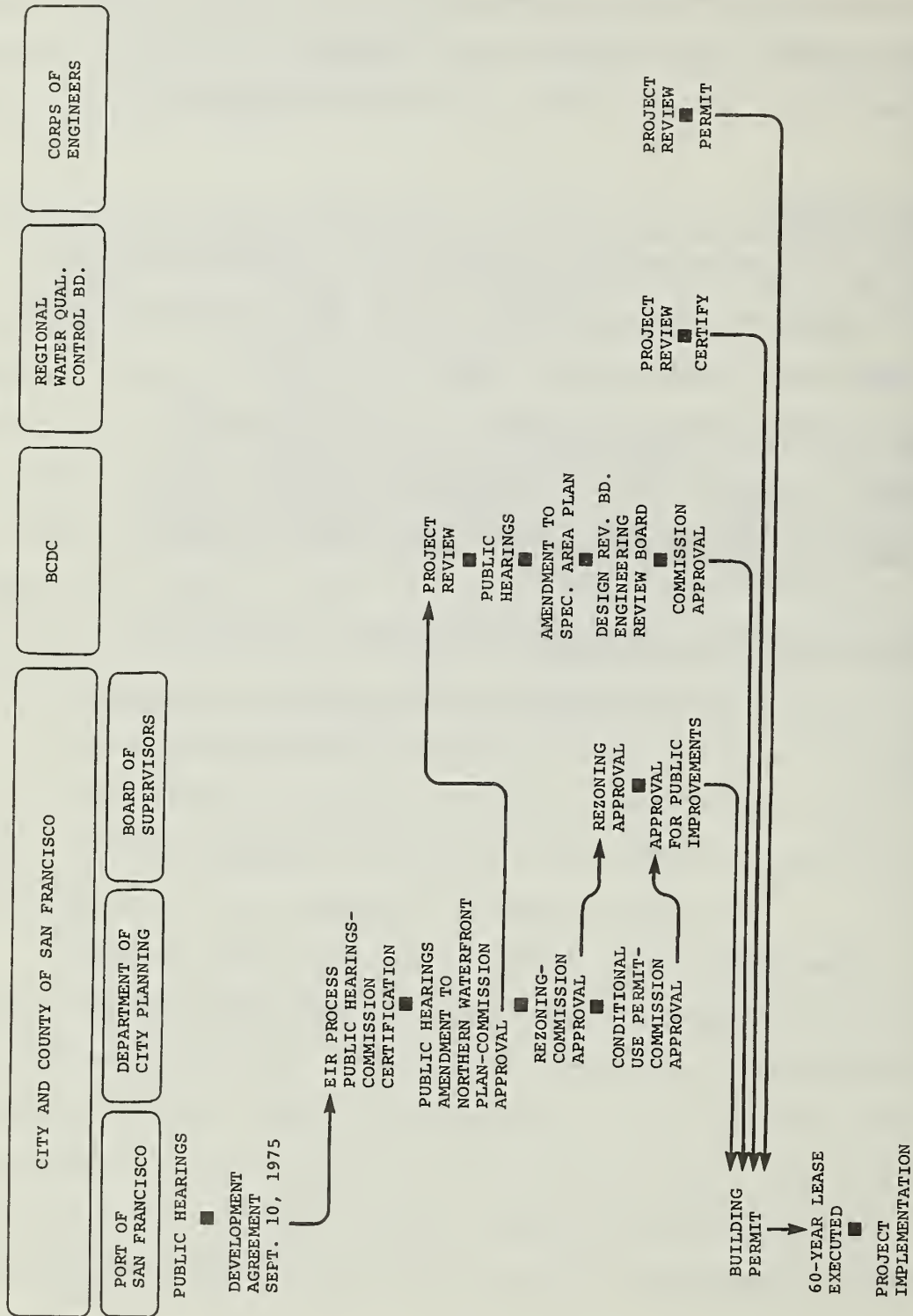
The development would fall under the jurisdiction of the following Federal and State agencies, which would review specific project aspects pertaining to the individual agency:

U.S. Army Corps of Engineers (jurisdiction under Section 10 of the Rivers and Harbors Act-U.S.). The U.S. Coast Guard is generally involved in the Corps' review. The San Francisco District of the Corps of Engineers has determined that an environmental impact statement will have to be prepared for the proposed project.

Regional Water Quality Control Board (jurisdiction under Porter-Cologne Act-Calif.).

A chart of the necessary permit processes is shown as

Figure 13.



PERMIT PROCESS REQUIRED FOR DEVELOPMENT
OF NORTH POINT PARK / MARINA

II. ENVIRONMENTAL SETTING

A. PHYSICAL ENVIRONMENT

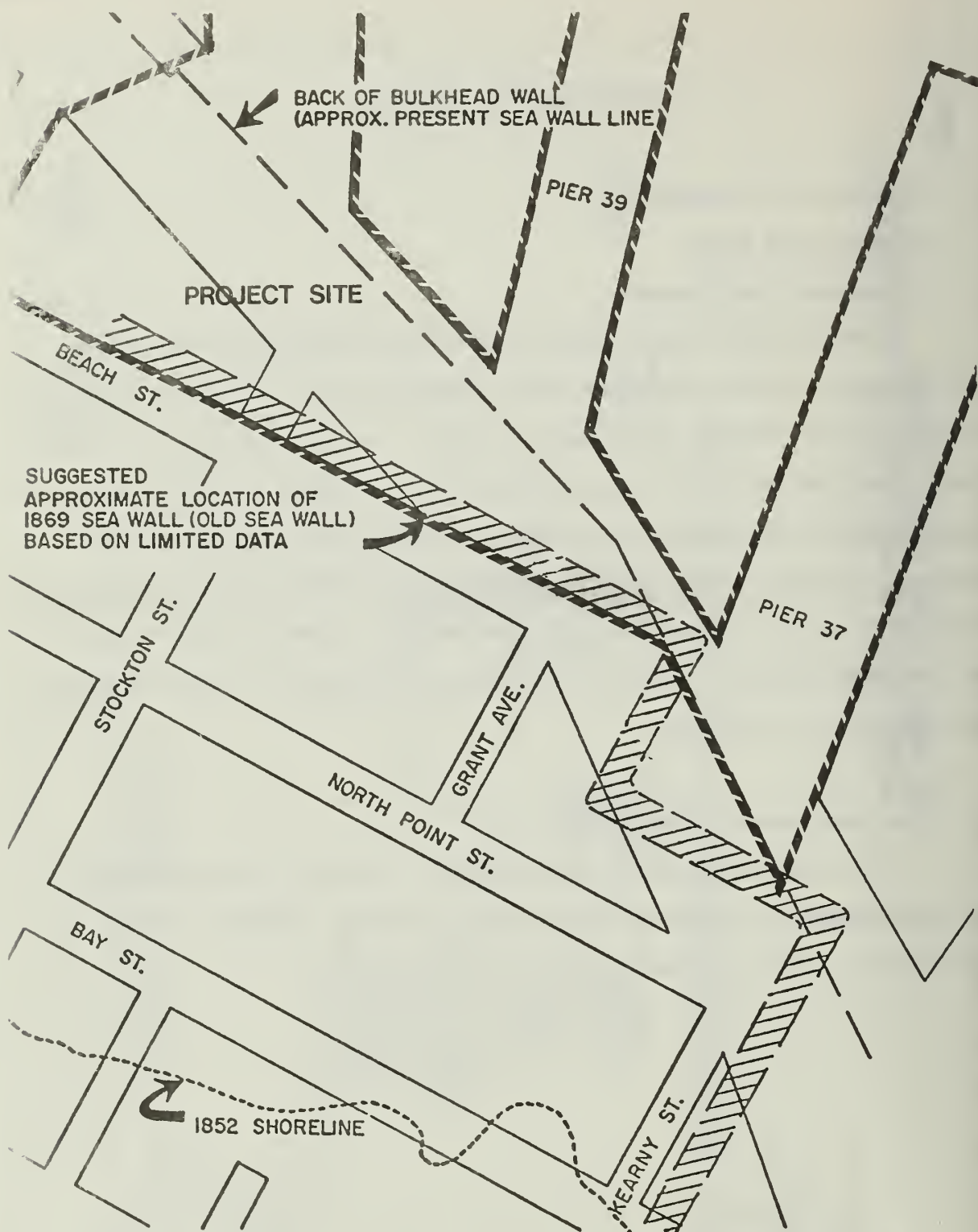
1. Geology and Soils

a. Historical Development

The seawall along this part of the waterfront was built in the early 1880's. It has been suggested that construction of an earlier seawall was begun in 1869, but its presence at this location has not been substantiated. Figure 14 shows the approximate locations of the 1852 shoreline, the suggested 1869 seawall, and the back of the bulkhead, or present seawall line. Figure 15 shows the position of the present seawall with respect to the Embarcadero. Again, an estimated location of the suggested seawall is indicated.

b. Site and Subsurface Conditions

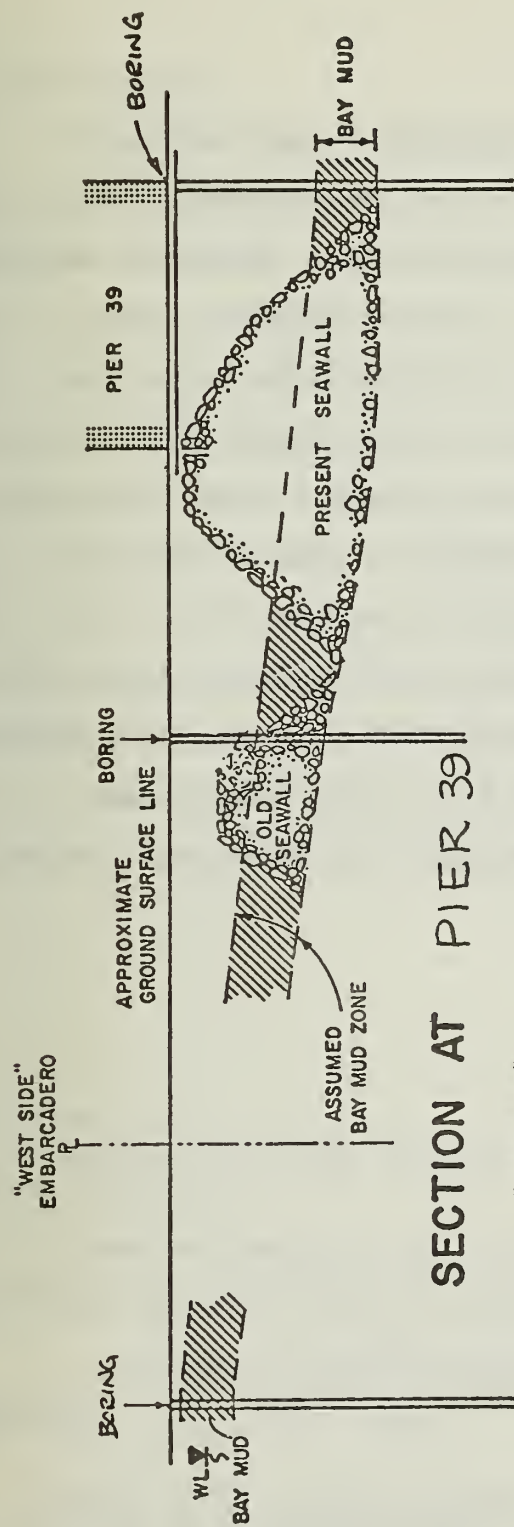
The ground surface is essentially level at an elevation of approximately +13 feet mean lower low water (MLLW), similar to the top of the decks of Piers 37,39, and 41.



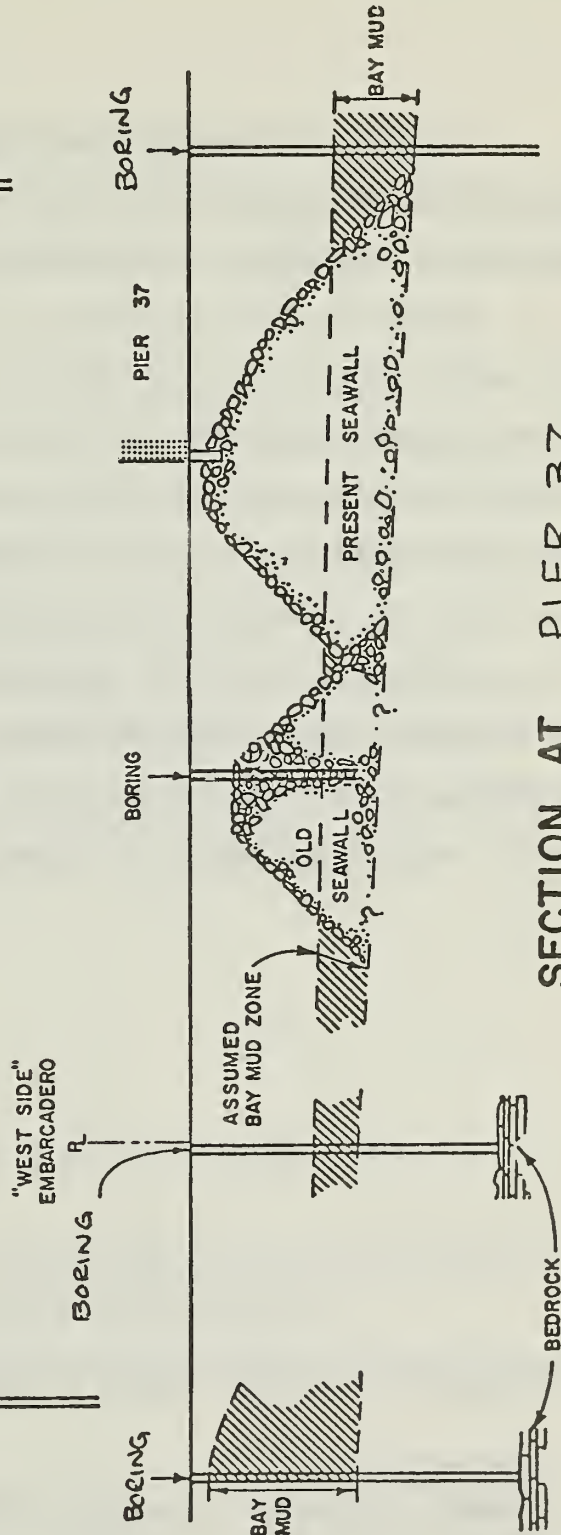
HISTORICAL DEVELOPMENT

FIGURE 14

SECTIONS



SECTION AT PIER 39



SECTION AT PIER 37

APPROXIMATE SCALE: 1"=40'

FIGURE 15

The site and nearby areas are underlain by 25 to 35 feet of fill, consisting mainly of fine- to medium-grained sands, with occasional rock fragments and rock or rubble fills.¹

Below the fill material is soft compressible silty clay, known locally as "Bay Mud". The firm soils below the Bay Mud consist primarily of medium dense to dense sandy soils. Based on previous borings in the general area, sandy soils with some interbedded clays would be expected to overlie bedrock, which would be located below elevation -100 feet.²

Offshore, the upper deposits of soft compressible silty clay (Bay Mud) exist down to about elevation -33 to -45. Available boring logs indicate that the firm soils below recent deposits consist primarily of dense sand and thick clay layers.

¹Dames and Moore, "Oceanographic and geotechnical setting and impacts," October 15, 1975.

²Ibid.

c. Stratigraphy

The site area is underlain by Quaternary¹ sediments and Franciscan² bedrock, at depth, consisting of interbedded graywacke sandstone and shale. The bedrock surface is quite irregular and, based on available test borings, is located below elevation -100 feet. The nearest surface exposures of Franciscan rock are noted to the south on Telegraph Hill and to the west on Russian Hill. More than 100 feet of Quaternary sediments, consisting of sands, silts, and clays, overlie the bedrock. On the landward side of the project area the surficial deposits consist of artificial fill including fine- to medium-grained sands and rock/rubble fragments. The sands are generally fine- to medium-grained and dense to very dense. These older sands are considered part of the Colma Formation by Schlocker³ and are probably Pleistocene⁴ in age.

¹Deposits laid down since the last glaciation, up to two million years ago.

²A complex assemblage of various rock types, predominantly sedimentary but also volcanic and metamorphic, named for San Francisco, where it occurs in extensive exposures.

³J. Schlocker, Geology of the San Francisco North Quadrangle, California, U.S. Department of the Interior, Geological Survey Professional Paper 782, 1974.

⁴Deposits laid down during the last series of glaciations, two to three million years ago.

On the offshore side of the site, the artificial fill is not present and the extent and thickness of the soft Bay Mud depends on the frequency and depth of dredging performed.

2. Seismicity

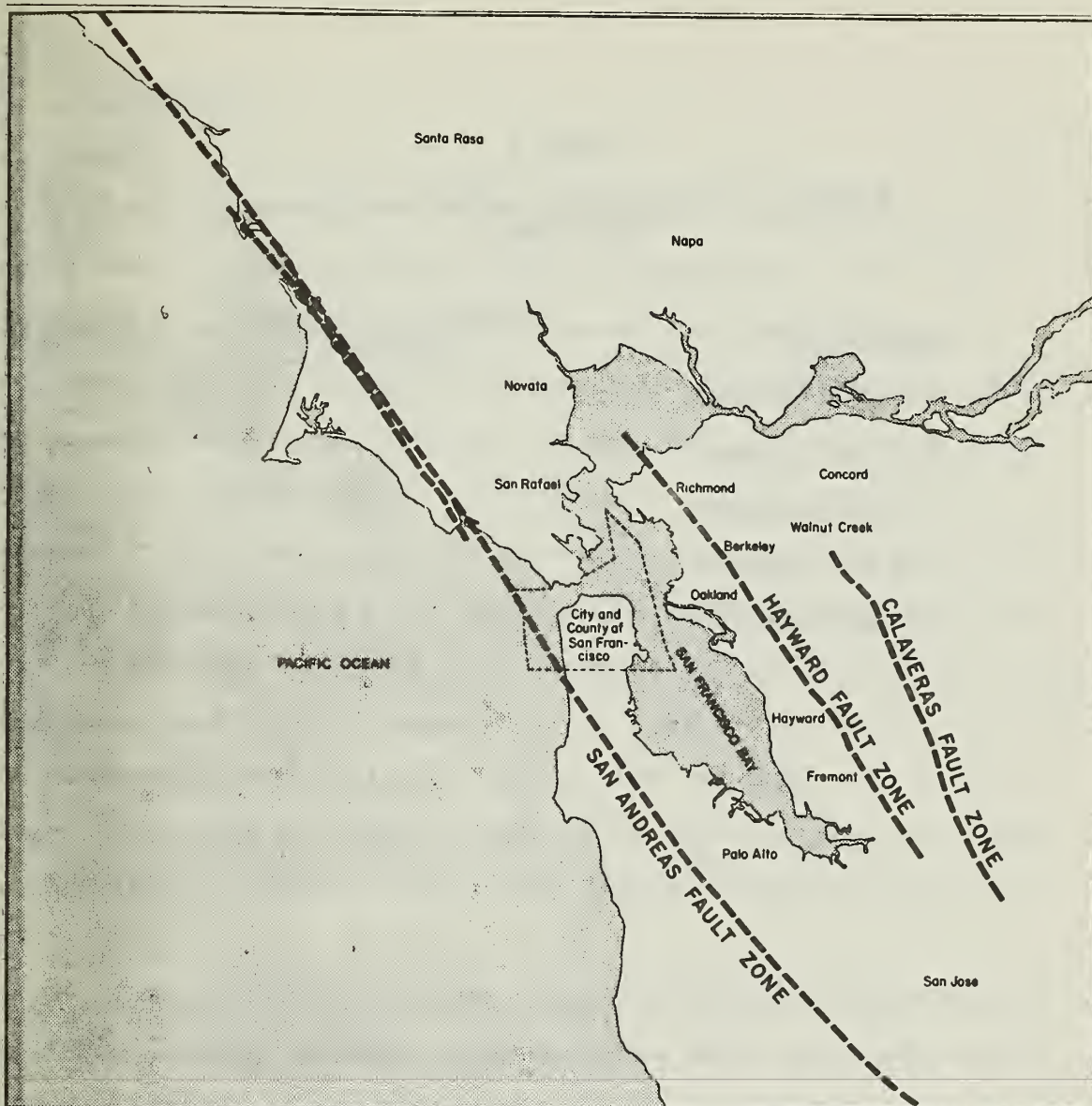
The major active faults nearest the site are the San Andreas and Hayward faults, which are identified in Figure 16. The San Andreas fault is about 10 miles west of the project site; the Hayward fault is about 15 miles east. These faults typically trend northwesterly.

Faults considered inactive¹ have also been mapped or inferred west and south of the site; they include the San Bruno, Hillside, and City College faults. No evidence of surface faulting has been reported within several miles of the site of the proposed project.

Lying between the active San Andreas and Hayward faults, the site is in a region of seismic activity. A compilation of earthquake records made for the San Francisco Bay Area by Tocher² is noted in Table 1. Instrumental data are available for recent earthquakes. For the early records, where instrumental information was not available, instrumental magnitudes were assumed from the estimates of maximum intensity.

¹Inactive faults are those along which no movement is known to have occurred in the past 10,000 years.

²Don Tocher, Seismic history of the San Francisco region, California Division of Mines Special Report 57, 1959.



ACTIVE FAULTS IN SAN FRANCISCO BAY AREA

Source: U.S. Geological Survey / J. Scholter, 1970

Source: San Francisco Department of City Planning,
Community safety: a proposal for citizen
review, The Comprehensive Plan of San
Francisco, July 1974.

REGIONAL FAULT MAP



FIGURE 16

TABLE 1
Summary of Historical Earthquake Record
(165 Years)

<u>Magnitude¹</u>	<u>Number of Events Recorded</u>
4.0 and greater	257
5.0 and greater	49
6.0 and greater	28
7.0 and greater	4
8.0 and greater	1

¹Richter magnitude: The size of an earthquake measured by the amount of energy it releases. Each unit jump on the Richter scale represents a tenfold ~~difference in energy release~~ increase in wave amplitude or roughly thirty-seven times the energy released.

3. Oceanography

a. Waves

The waves affecting the project site are primarily of two types: long-period ocean swell transmitted through the Golden Gate and short-period wind waves generated within San Francisco Bay. In addition, occasional boat wake waves produced by passing vessels are incident to the area. Also, on an infrequent basis the California Coast experiences the impact of a tsunami,¹ which can propagate through the Golden Gate to the Bay.

Visual observations made at Gas House Cove (8,000 feet west of the site) and wave data recorded at Pier 45 indicate that the ocean swell, which comes from the west, has a period of eight to ten seconds and varies in height from one-half foot to three feet.² Assuming an average depth of 30 feet at the site, these waves are estimated to have a wave length³ ranging from 225 to 292 feet.

The period, height and length of wind-generated waves are determined by several factors: wind velocity and duration,

¹An unusually large sea wave produced by a seaquake or undersea volcanic eruption.

²U.S. Army, Fisherman's Wharf area, San Francisco harbor, California, navigation study: breakwater design criteria and analysis, Corps of Engineers, San Francisco District, 1975; and R. L. Wiegel, Possible remedial action for Gas House Cove yacht harbor, San Francisco, California, report for the City and County of San Francisco, July 1967.

³Wave length is the distance between consecutive wave crests.

water depth, and fetch length.¹ The two most critical fetch directions to the site, because of their greater lengths, are those extending to the north-northwest (NNW) and to the northeast (NE). For the Fisherman's Wharf study² the Corps of Engineers determined that, based on 25 years' data from the U.S. Naval Air Station at Alameda, the most probable maximum wind velocities from the NNW and NE were 40 mph and 30 mph respectively. Estimates of significant³ wave heights and wave periods for these two fetches, based on Bretschneider's method,⁴ are provided in Table 2 for wind speeds up to 40 mph. Also given are the wave lengths at a 30-foot project depth.

TABLE 2

Significant Wind Wave Heights and Periods and 30-Foot-Depth Wave Lengths at Project Site

Wind Speed (mph)	NNW Fetch			NE Fetch		
	Height (ft)	Period (sec)	Length (ft)	Height (ft)	Period (sec)	Length (ft)
25	2.5	3.0	46	2.5	2.8	40
30	3.2	3.3	56	3.0	3.1	49
35	3.8	3.5	63	3.5	3.3	56
40	4.4	3.7	69	4.0	3.4	59

¹Fetch length is the horizontal distance over which wind generates waves.

²U.S. Army, Fisherman's Wharf area, 1975.

³Significant is defined as the average of the highest one-third of all wave heights.

⁴U.S. Army, Shore protection manual, Volume 1. Coastal Engineering Research Center, 1973.

The wind-generated waves encountered at the site are estimated to range in height from 2.5 to 4.4 feet and have periods ranging from 2.8 to 3.7 seconds. The highest, longest-period waves would be generated along the NNW fetch for 40-mph wind, and the period estimates shown above agree with estimates by the Corps of Engineers for the nearby Fisherman's Wharf area.¹

Studies conducted in the Oakland Estuary indicate that large vessels, such as tankers and cargo carriers, traveling at low speeds (5-6 knots) consistently generated waves of less than one foot.² The highest wave measured, 2.6 feet, occurred 100 feet from a 100-foot-long tugboat traveling at 12.3 knots. The characteristics of the maximum-size waves of other small vessels were similar to this. Since operators of vessels are liable for any damages caused by vessel waves, most ships attempt to maintain speeds of less than 10 knots.

Tsunamis, or seismic sea waves, are very long-period waves caused by an underwater disturbance, such as a volcanic eruption, earthquake, or landslide. Such waves have very small heights while traveling over deep ocean water; however, as they approach land their height increases dramatically and they can strike the coastline with catastrophic results. These waves

¹U.S. Army, Fisherman's Wharf area, 1975.

²R. M. Sorenson, "Investigations of ship-generated waves," American Society of Civil Engineers, Journal of the Waterways and Harbors Division, Vol. 93, No. WW1, February 1967.

occur irregularly in the Pacific Ocean Basin. The last noteworthy tsunami to hit the San Francisco area occurred in March 1964 and caused about \$200,000 damage in the Bay. The maximum height of this tsunami at the Golden Gate was 7.4 feet.¹

b. Tides

Table 3 summarizes the information for various tidal characteristics at or near the proposed project location.

TABLE 3
Project Site Tidal Characteristics*

<u>Characteristics</u>	<u>Elevation (ft)**</u>
Estimated highest water	8.5
Mean higher high water (MHHW)	6.0
Mean high water (MHW)	5.4
Mean tide level	3.3
Mean low water (MLW)	1.2
Mean lower low water (MLLW)	0.1
Estimated lowest water	-2.5

Source: U.S. Department of Commerce, "Tidal bench marks, Rincon Point, San Francisco," Environmental Science Services Administration, Coast and Geodetic Survey, September 13, 1965, and "Tidal bench marks, the Presidio, San Francisco," Idem, August 16, 1967.

*Datum: Lower low water.

**Elevations based on the average of values given for the Presidio and Rincon Point.

¹O. T. Magoon, "Structural damage by tsunamis," American Society of Civil Engineers, Coastal Engineering Specialty Conference, Santa Barbara, October 1965.

c. Currents

Current patterns near the site depend mainly on the ocean tides, since they control water movement in the central portion of San Francisco Bay. The volume of tidal prism¹ is so large that it overrides the influence of fresh water inflow from the Delta.² Mass water movement is parallel to the San Francisco shoreline through the channel between North Point and Alcatraz, and the tidal exchange is a net seaward displacement of the surface water layer, resulting in a net flushing action.

Tidal current charts prepared for San Francisco Bay show currents to be parallel to the shoreline near the project site.³ Maximum flow and ebb current velocities are approximately 2.1 and 2.7 knots, respectively. These tidal current charts show that flood waters originate from ocean sources outside the Golden Gate, while ebb waters emanate entirely from the South Bay Region.

Qualitative studies were conducted at the Army Corps of Engineers' San Francisco Bay-Delta Hydraulic Model to compare existing and post-construction current patterns and velocities at the project site. For the existing conditions, flood and ebb

¹Tidal prism: The total amount of water that flows into a tidal basin or estuary and out again with movement of the tide, excluding any fresh-water flow.

²U.S. Environmental Protection Agency and City and County of San Francisco, Final environmental impact report and statement: San Francisco wastewater master plan, D-EPA-24003-CA, May 1974, hereinafter referred to as Wastewater master plan EIR/S.

³Ibid.

flow is parallel to the shoreline nearshore and velocity decreases from the pier ends landward, as noted in Figures 17 and 18.

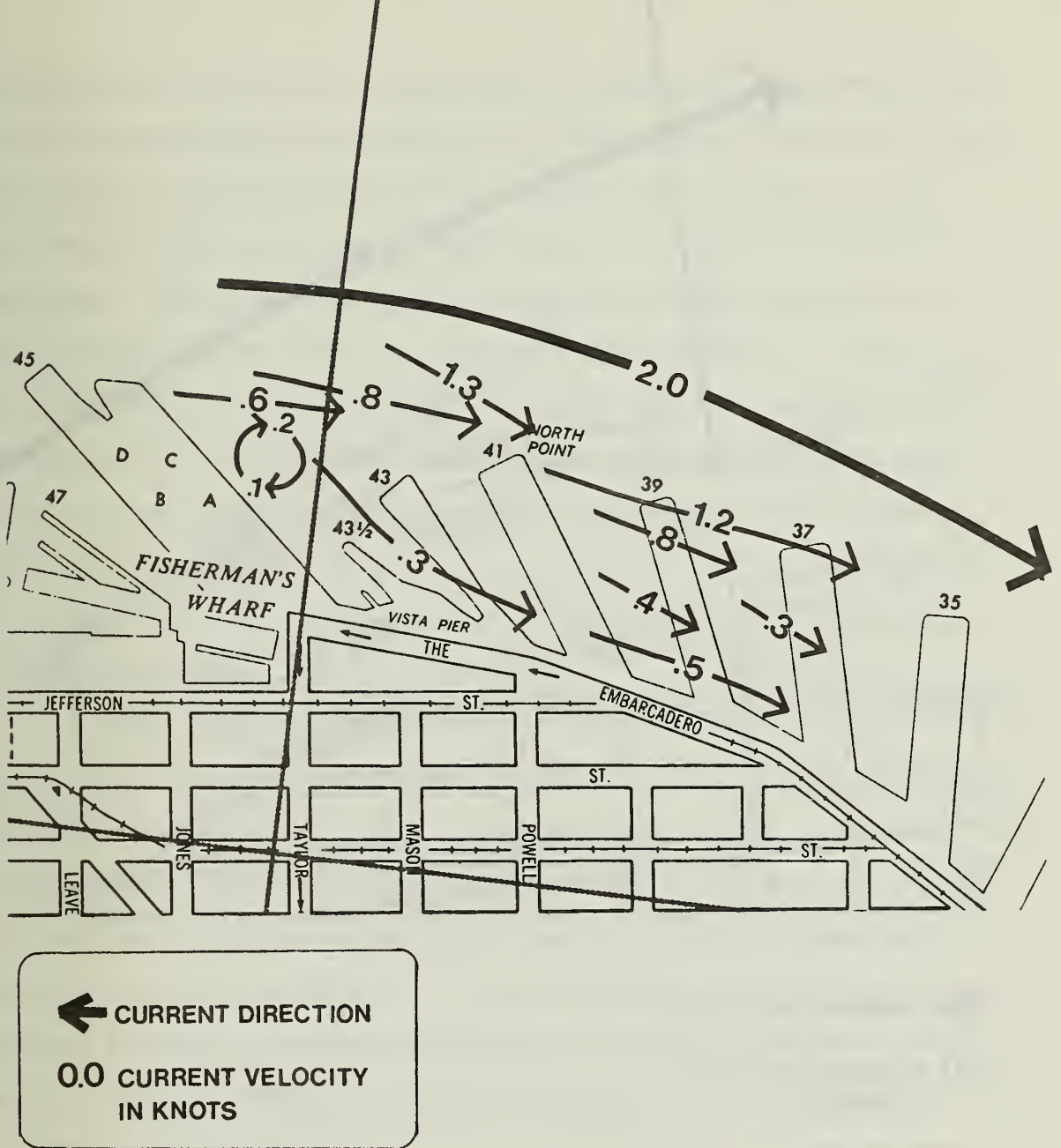
d. Sediments

In estuarine systems such as San Francisco Bay there are five sources of sediments: 1) the ocean (marine), 2) the river(s) (fluvial), 3) the wind (aeolian), 4) the immediately adjacent land and tidal flats, and 5) any waste discharges. The predominant source of sediments at a given location within an estuary depends upon the estuary's geological, climatological, and tidal environments.

The surface sediments at the project site consist predominantly of Bay Mud, a gray, clay-sized material. This mud layer, which varies in thickness, is underlain by sand.¹ The type of surface sediment material found at the project site indicates that its source is probably from within the Bay and that it is not of marine origin. This fine-sized material is transported to the site in suspension and settles to the bottom during portions of the tidal cycle when current velocities have diminished. It is not likely that the nearby sewage outfalls contribute a significant amount of sediment to the area.

Sedimentation rates at specific locations along the San Francisco waterfront vary according to current patterns and the

¹American Society of Civil Engineers, Subsidence and the foundation problem, 1931.



FLOOD TIDE CURRENT PATTERNS



FIGURE 17

presence of obstructions. Estimates provided by representatives of the Engineering Department of the Port of San Francisco¹ indicate that the sedimentation rates within the confines of the proposed project site are on the order of one-half to one foot per year. These estimates agree with those based on changes in water depths determined by comparing soundings made at the site in 1969, 1970, 1971, and 1972. Analysis of these soundings also indicates that sedimentation occurs more rapidly near the bulk-head line and that the shoaling rate diminishes with increased distance from the shore.

4. Water Quality

One of the factors influencing the quality of water at the project site is its close proximity to the North Point Water Pollution Control Plant sewage outfalls. This plant now provides conventional primary treatment (including chemical coagulation with ferric chloride) for a daily average dry-weather flow of 65 million gallons.² This dry-weather effluent is discharged through four 48-inch-diameter cast-iron outfalls³ terminating 800 feet offshore. When rainfall exceeds the rate of

¹G. Gibbson and D. Edwards, Engineers, Port of San Francisco, telephone conversation October 1975.

²Wastewater master plan EIR/S.

³Construction of diffusers that achieve a dilution of approximately 10:1 was recently completed.

0.1 inch/hour in the North Point drainage district, diversion structures route an untreated mixture of sanitary and storm sewage through wet-weather bypass outfalls that discharge directly into the Bay. These wet-weather discharges occur, on the average, 82 times per year.¹ Under wet-weather conditions the dry-weather outfalls still continue to discharge primary treated sewage up to their maximum total capacity of 67.8 million gallons per day.

One of the wet-weather bypass outfalls extends 20 feet beyond the bulkhead line between Piers 37 and 39. This bypass, which discharges directly into the project site, has a 6-foot-by-7-foot cross section. During a rainfall rate of 1.8 inches/hour (five-year storm) it has a discharge rate of 425 cubic feet/second (cfs),² corresponding to a rainfall duration of 9 to 10 minutes. The discharge rate is estimated to be about 100 cfs for a rainfall rate of 0.5 inch/hour lasting one hour (one-year storm).³

According to analysis of the chemical characteristics of the wastewater effluent discharged through the dry-weather outfalls beneath Piers 33 and 35, the measured five-day

¹Wastewater master plan EIR/S.

²D. Birrer, Sanitary Engineer, San Francisco Department of Public Works, telephone conversation October 1975.

³Wastewater master plan EIR/S.

biochemical oxygen demand (BOD₅)¹ of the effluent ranged from 46 to 144 mg/l during the first six months of 1975. The dissolved oxygen (DO)² content of the effluent during that same period ranged from 2.2 to 7.5 mg/l. Since the advanced primary treatment methods utilized in San Francisco remove 25 to 28 percent of the BOD₅, the untreated effluent discharged through the wet-weather bypass outfalls would be expected to have higher BOD₅ values.³

The data in Table 4 indicate that, on dry-weather days in the period under consideration, no DO levels measured in the waters adjacent to the project site were below 5 mg/l, despite the presence of nearby sewage outfalls. The minimum acceptable level of DO concentration in receiving waters has been established at 5 mg/l by the Regional Water Quality Control Board.⁴ Strong tidal currents, unimpeded by any structures that might create areas of stagnation, flush the nearshore waters with near-saturation ocean water. For this reason, and because of the initial dilution capability of the sewage outfalls, the

¹BOD₅: The quantity of oxygen utilized in the biological oxidation of organic matter during a five-day period under standard conditions.

²DO is a critical water quality parameter since its level, in part, determines the water's capability to support life.

³City and County of San Francisco, Draft environmental impact report, North Shore Outfalls consolidation, San Francisco wastewater management plan, Implementation Project III, August 1975.

⁴Wastewater master plan EIR/S.

waters near the project site have satisfactory DO levels on dry-weather days.¹

TABLE 4

Dissolved Oxygen Levels of the Water
Adjacent to the Project Site
(mg/l)

<u>Year</u>	<u>Month</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
1974	Jan	8.0	9.2	*
	Feb	*	*	*
	Mar	6.2	8.5	*
	Apr	6.3	8.5	*
	May	6.3	8.0	*
	Jun	6.9	7.7	*
	Jul	5.8	7.7	*
	Aug	5.9	7.8	*
	Sep	5.8	7.7	*
	Oct	5.7	7.1	*
	Nov	6.1	7.5	*
	Dec	5.8	8.0	*
1975	Jan	7.5	8.8	8.2
	Feb	7.6	8.1	7.8
	Mar	7.6	9.0	8.4
	Apr	7.8	8.3	8.0
	May	7.6	8.4	8.0
	Jun	7.3	7.7	7.5

*Not available.

Source: San Francisco Department of Public Works, North Point Water Pollution Control Plant monitoring reports, January-December 1974; Idem, Annual receiving water data summary, January-June 1975.

¹Wastewater master plan EIR/S.

5. Climate

San Francisco's climate is dominated by the sea breeze characteristic of marine climates. As a result of this steady stream of marine air, there are few extremes of heat or cold. Temperatures exceed 90 degrees on an average of once a year and drop below freezing less than once a year. The warmest month is September, with an average daily maximum of 69°; the coolest is January, with an average daily maximum of 56°.

Winds in San Francisco are generally from a westerly direction and are persistent from May to August. During the rainy period, however (October to April), the strongest winds flow from the south, as well as from the west and northwest.

The project site is located at the extreme north end of the San Francisco Peninsula. Its location immediately downwind of the Golden Gate and the lack of upwind obstructions cause winds at the site to be generally higher than in most areas of San Francisco. Results of the wind tunnel tests ^{by the applicant} ~~(see Appendix 2)~~ show that the site is relatively exposed to winds off the Bay. Wind speeds were generally moderate to moderately high. Near waterfront structures, winds were low but turbulent. Winds between the piers were found to be higher, especially near the water's edge.

6. Air Quality

San Francisco's persistent summer winds, and its upwind position with respect to major pollutant sources, continue to give the city possibly the cleanest air in the Bay Area. In 1974, the oxidant standard was exceeded on four days in October, the carbon monoxide standard was exceeded on two days in January, and the nitrogen dioxide standard was not exceeded.¹

Estimates of existing carbon monoxide concentrations have been calculated under adverse meteorological conditions² on or near the Embarcadero, the area of heaviest traffic near the site. Estimated concentrations are 6.5 parts per million (ppm) and 1.5 ppm for one- and eight-hour averaging times, respectively. The corresponding Federal ambient air quality standards are 35 and 9 ppm, respectively.

7. Noise

A noise survey was conducted near the project site to describe the current noise environment and aid in predicting future impacts. The results of the survey are summarized below.³

¹California Air Resources Board, California air quality data, Vol. VI, No. 4, 1975.

²See Section III.A.5, Air Quality Impacts, for descriptions of the assumed meteorological conditions, traffic assumptions, and the diffusion model employed.

³Measurements taken on October 13, 1975, between 1:00 p.m. and 3:30 p.m., by Richard Rodkin, Buonaccorsi and Associates.

<u>No.</u>	<u>Location</u>	<u>L10</u>	<u>L50</u>	<u>L90</u>
1	Embarcadero, in front of Pier 39, 20 feet from near lane center	73	65	59
2	Mason Street, 100 feet north of Beach-Mason intersection, 30 feet from near lane center	69	63	59
3	Vacant lot between Beach and Embarcadero, 100 feet from the Embarcadero	67	62	58

The L10, L50, and L90 represent the A-weighted noise levels in decibels¹ exceeded 10, 50 and 90 percent of the time, respectively. L10 represents the "average peak" level, L50 the median noise level, and L90 the background noise level.

At Location 1, peak noise levels were associated with the passage of buses, trucks, and motorcycles on the Embarcadero.

Peak noise levels at Location 2 were caused by traffic, buses, and the helicopter taking off and landing at Pier 43. Background levels were distant traffic, jet flyovers, and buses in the nearby Municipal Railway yard.

In addition to short-term noise samples, noise was monitored continuously for a 48-hour period on Beach Street between

¹Decibel (dB): A unit of sound pressure expressing relative differences in sound levels, equal to ten times the logarithm to the base 10 of the ratio of a sound pressure to the pressure of a sound at the lowest level that the human ear can hear. dBA is a generally accepted unit of loudness corrected for the variation in response of the typical human ear at commonly encountered noise levels.

Powell and Mason Streets.¹ Analysis of these data shows that the highest noise levels in the project area occur in the late afternoon. Lowest noise levels occur between 2 and 5 a.m.

Land use compatibility and noise relations are contained in the Transportation Noise section of the Environmental Protection element of the Comprehensive Plan.² For commercial uses, including retail and restaurants, the measured existing L_{dn} ³ of 69 dBA is considered an acceptable noise level.

8. Biological Resources

The biological resources found within the project boundaries are aquatic, since there is no terrestrial vegetation on the site. Numerous bird species frequent the area, principally to rest and, to a lesser extent, to feed. Owing to the depth of the water, this segment of the waterfront is not considered an important habitat for shorebirds. The predominant species found in the area are gulls and cormorants; other commonly occurring birds are grebes, loons, pelicans, surface-feeding ducks

¹Measurements were made on October 22-24, 1975, on a second-story balcony midway between Powell and Mason Streets. Space was provided by the Sheraton Hotel.

²San Francisco Department of City Planning, Environmental protection: The Comprehensive Plan, adopted by the City Planning Commission September 19, 1974.

³ L_{dn} : A noise measurement expressed in dBA, based on human reaction to the cumulative exposure to noise over a 24-hour period and taking into account the greater annoyance value of nighttime noises.

such as mallards and pintails, and diving ducks such as scoters, bufflehead, and scaups. The brown pelican (Pelicanus occidentalis californicus) is the only endangered species that might visit the area.

The typical aquatic communities to be expected along the waterfront are represented in the project area.¹ The medium-grained sandy sediments support benthic² populations of clams, worms, shellfish such as the red crab, and other invertebrates. No commercial shellfish beds are found in the vicinity. Species lists of benthic organisms are available in earlier studies.³

The piers support communities of attached organisms; the invertebrate mussels and barnacles, and the alga rockweed are the most commonly encountered.

The planktonic (free-floating microscopic organisms) and nektonic (free-swimming animals capable of directed mobility, such as fish and insects) communities are represented. Game fish caught off the piers include perch, sculpin, rockfish,

¹E. F. Ricketts, J. Calvin, and J. Hedgpeth, Between Pacific tides (Stanford: Stanford University Press), 1968.

²Benthic: bottom-living.

³S. L. Dedarian, "A study of benthic marine invertebrates along the San Francisco waterfront" (Master's thesis, University of San Francisco), 1966, and Brown and Caldwell, "A predesign report on marine waste disposal, City and County of San Francisco," 1971-1973.

striped bass, kingfish, jacksmelt, rays, sharks, and flatfish.¹ Marine mammals (sea lions, harbor seals, and porpoises) are found in the Bay but are not known to utilize the area to any extent.²

The estuarine environment of the project site is influenced by previous and current human activity. The greatest stresses on the current environment are the nearby sewage outfalls. Once these flows are discontinued, the overall health of the aquatic environment along the northern waterfront should improve. A curious consequence of cleaning up the waters would be the return of the marine borers: organisms that eat or burrow their way into the wood of pier pilings. Four organisms of this type are common to the northern waterfront: the shipworm (Bankia sp.), the teredo (Teredo sp.), the gribble (Limnoria sp.), and the isopod Sphaeroma. Pollution in the Bay has diminished their number to a large extent.

9. Visual Appearance

The waterfront in the project area is characterized by the hard edges of the bulkhead structures forming the entrances

¹U.S. Army Corps of Engineers, Breakwater study for light draft navigation, Fisherman's Wharf area, San Francisco, California, Environmental Impact Statement, July 1975.

²John Inase, "The ecology of Piers 37 and 39, San Francisco waterfront," unpublished, August, 1975; and Bay Conservation and Development Commission, Final environmental impact report on Special Area Plan for the San Francisco waterfront, March 1975.

to the piers (see Figures 19 and 20). As is true with much of San Francisco's waterfront, the city does not merge with its northern waterfront but comes to an abrupt halt short of it. The visual and physical barriers to the waterfront are most dominant adjacent to the piers, along the Embarcadero.

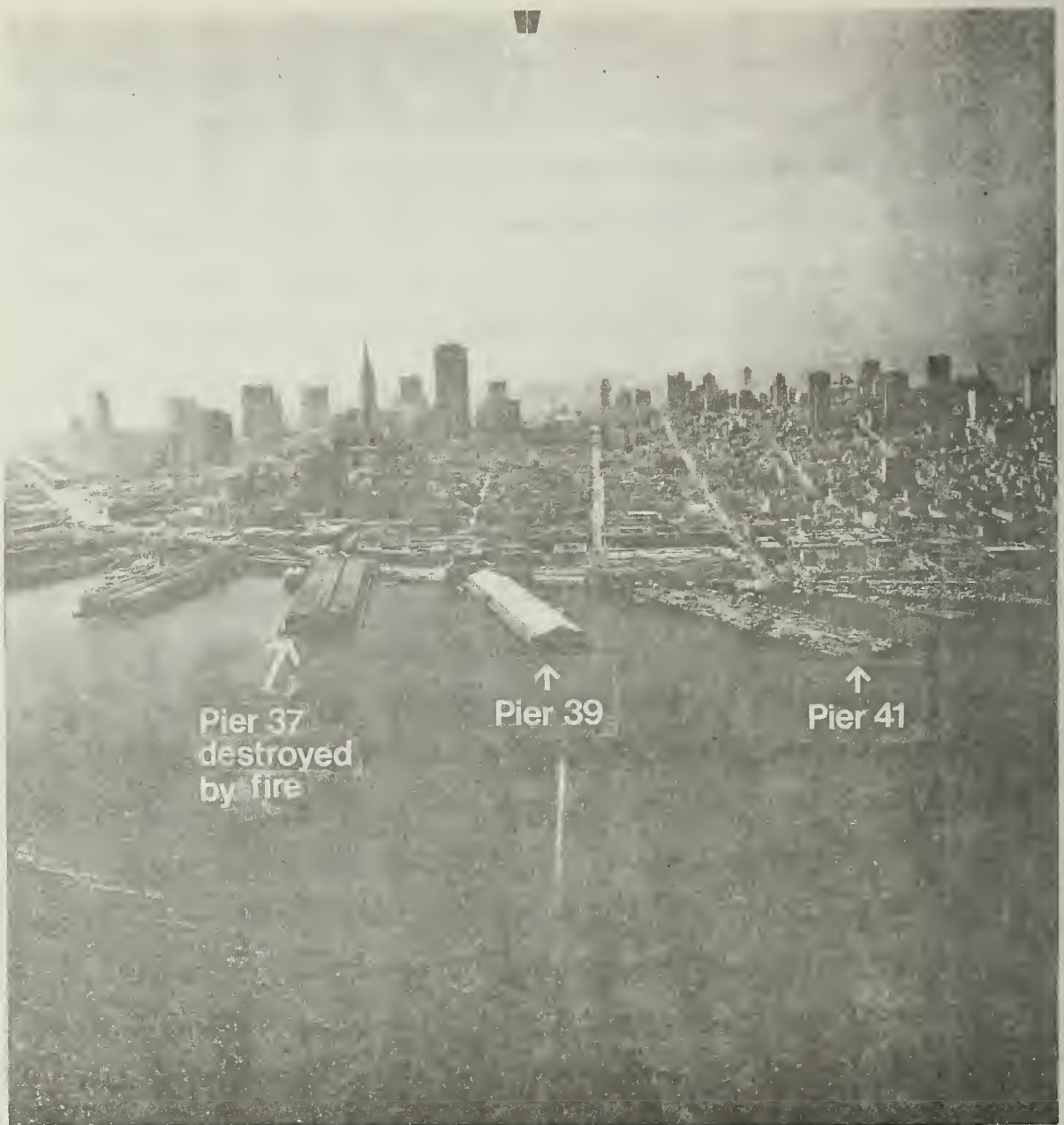
B. SOCIAL ENVIRONMENT

1. Land Use

a. Present Land Use, Northern Waterfront (Figure 21)

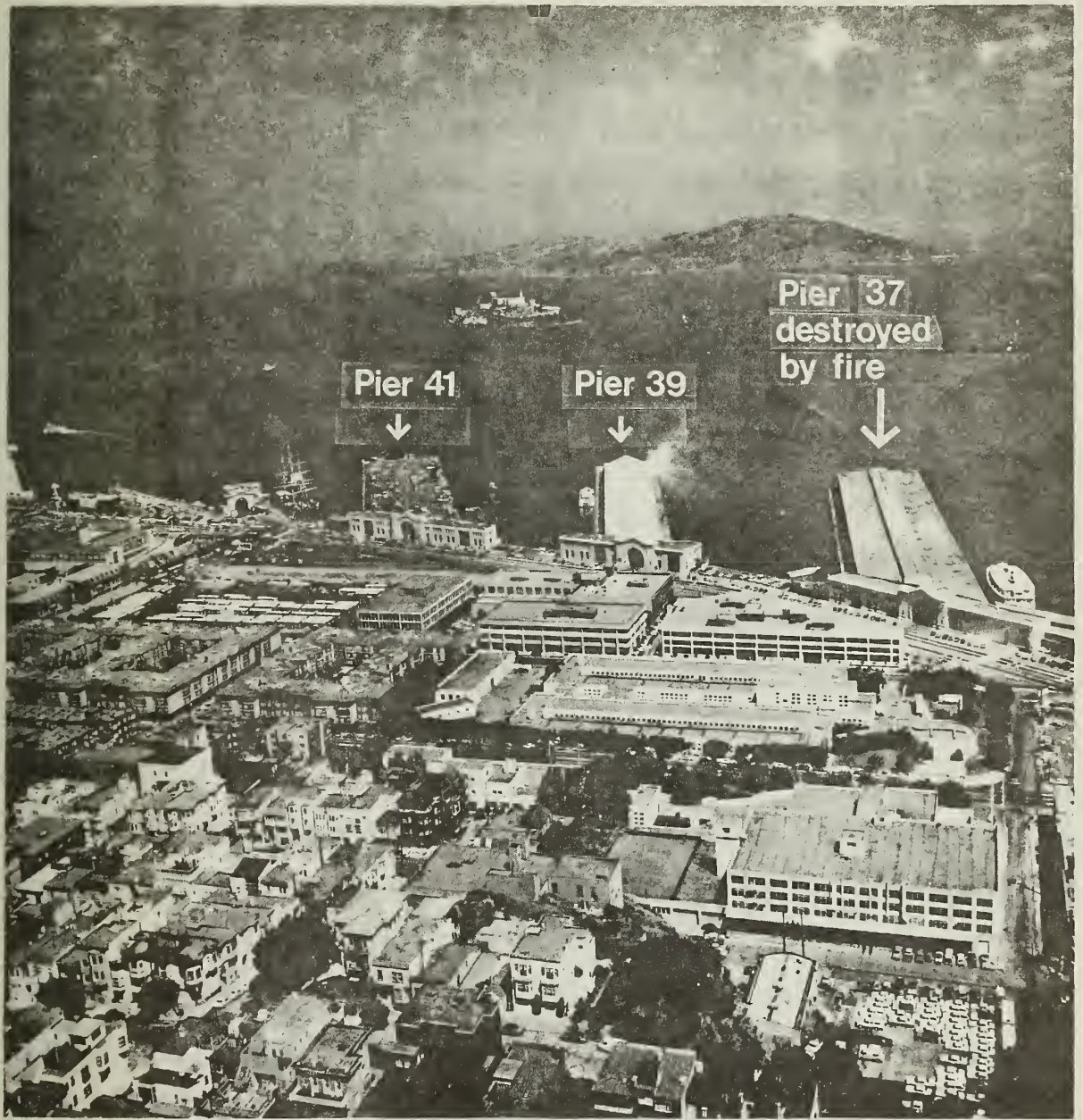
Development southeast of the proposed North Point Park/Marina is tending toward a combination of office space and general commercial activity serving downtown businesses. Blue Shield occupies three buildings constructed in the last five years and several new structures are being built to the southeast. Light industrial uses, such as warehouses oriented to maritime locations, are being replaced as Port activity, shipping technology, and land prices change. Upper-income residential development has been introduced with the completion of the Telegraph Landing condominiums at Chestnut and Sansome Streets.

Pier 39, the proposed location for the North Point Park/Marina, is used for office space and storage, with some maritime activity. Pier 37, which recently burned, had been used for storage, with some parking and office space. On June 10, 1976, the Bay Conservation and Development Commission authorized



SITE VIEW FROM NORTH

FIGURE 19



SITE VIEW FROM SOUTH

FIGURE 20

completion of demolition of Pier 37 and its bulkhead wharf area. Pier 41 housed a structure that has been dismantled; it is temporarily serving as a storage and sales area for the materials from this operation. The pier is to be used for a youth fishing program yet to be inaugurated. Such vessels as ferries, water taxis, and tugs are moored on an interim basis at Piers 39 and 41. The Golden Hinde is moored on the east side of Pier 41; its future location in the project area would be determined by negotiation with the developer.

The piers south of the project are in maritime uses. Pier 35, adjacent to the project, is the only active passenger terminal in San Francisco. The piers northwest of the project to Hyde Street are used for tourist recreation, warehousing, and commercial fishing berths.

Land uses northwest of the proposed project are predominantly retail and entertainment. Specialty shops and restaurants prevail, along with hotel/motel structures. Fisherman's Wharf dominates the character of land uses in the area, particularly along Jefferson between Hyde and Taylor. Ghirardelli Square and the Cannery are further northwest. Some light industry serves Fisherman's Wharf. Pier 43 houses a historic ship, boat tours of the bay, and a helicopter offering flights over the area. Pier 45 is predominantly in maritime use. Fisherman's Wharf is adjacent, housing commercial fishing boats and fish-processing activities. The San Francisco Maritime Historic Park is located west of the Hyde Street Pier.

Public open space along or near the waterfront between Van Ness Avenue and Market Street is limited to Aquatic Park, Victorian Park, the municipal pier and the Hyde Street Pier. Interspersed throughout the area is parking, both for specific businesses and for the general locale.

Land between the waterfront area and Columbus Avenue is dominated by residential uses. The north side of Telegraph Hill descends to meet Bay Street. There is additional residential development to the west. The area between Leavenworth and Kearny, south of the project area to Chestnut, has been developed for commercial and residential uses.

b. Proposed Land Use: Northern Waterfront Plan (Figure 22)

According to the Northern Waterfront Plan, Piers 35 south to 9 are to remain in active maritime use. The area inland from the piers is indicated for general commercial development, which corresponds to existing trends.

Significant land use changes are proposed for Piers 45 through 37. The central area surrounding Telegraph Hill is to remain in residential use.

Northwest of the proposed North Point Park/Marina, a continuation of existing land use trends is indicated. Retail and entertainment uses are to prevail, with hotels heavily interspersed throughout the area.

Proposed land uses for Piers 37 and 45 differ significantly from what exists. According to the Northern Waterfront Plan, Pier 37, recently damaged by fire, was to be developed for retail/entertainment uses along with Pier 45. The two piers between, 39 and 41, are to be removed to provide vistas for tourists and residents enjoying the park planned along this area of the shore and extending south. Hotels are proposed for both Piers 37 and 45.

Residential uses are also proposed in the Plan for the now non-existent Pier 37 and Pier 45, with office space to be located in the latter.

Development of a strip of open space running north from the Bay Bridge to Pier 43 is proposed in the Northern Waterfront Plan. An important focus of this park is the proposed open space and pedestrian promenade planned at the foot of the present Piers 39 and 41. Additional open space is proposed at the foot of Pier 45.

Specific locations are designated for parking structures in the Plan. Existing development has made this impossible on many of the proposed sites. The essence of the Plan's approach toward parking facilities remains a viable concept, however. It is based on the policy that large facilities should be located on the periphery of intensely developed areas. The project sponsor has relegated parking to a zone between Beach and Bay Streets bounded by Columbus and Grant Avenues.

Proposals for improving the Fisherman's Wharf area are being studied by the staffs of the Port of San Francisco and the Department of City Planning. A report by a private consultant to the Port, the Army Corps of Engineers' proposal, and the report of the Mayor's Citizens Committee for the Preservation and Beautification of the Fisherman's Wharf Area provide for breakwaters to prevent surge action in the harbor and for an increase and upgrading of the berthing space for commercial fishermen. In support of this, fish-processing facilities would also be enlarged and renovated.

A development agreement was negotiated but not signed, and was then withdrawn, between the Port Commission and Gerald D. Hines & Associates to develop Pier 45 with hotel, housing, office, commercial, and retail space. This development would have adjoined the North Point Park/Marina.

2. Historic and Archaeological Resources

The project site lies in one of the last areas of the waterfront to be filled, during the 1880s or early 1890s. There are no National Register sites¹ or designated landmarks in the proposed project area. The Eagle Cafe on the northwest

¹U.S. Department of the Interior, National Park Service, The national register of historic places, 1972; Supplement 1974; and Harlan Soeten, Curator, San Francisco Maritime Museum, interview October 7, 1975.

corner of Assessor's Block 15 is considered by some to be of historic interest.

3. Public Services

a. Gas and Electricity

The project site lies within the service area of Pacific Gas and Electric Company (PG&E). PG&E supplies natural gas and electricity to customers on Piers 39 and 41, and previously supplied Pier 37. Consumption of natural gas in San Francisco reaches a peak in December-January; electrical consumption peaks in November-January.

b. Water Supply

The project site is within the service area of the San Francisco Water Department. San Francisco derives its water supply from three sources, the largest being O'Shaughnessy Dam in the northern Yosemite area. Three hundred million gallons per day (300 mgd) are available from this source alone. An additional maximum 50 mgd can be drawn from surface waters in San Mateo, Santa Clara, and Alameda Counties and underground water in Alameda County.

The present consumption rate for the city, based on a 12-month average day, is 100 mgd.¹

c. Wastewater²

The San Francisco Department of Public Works is responsible for wastewater treatment in the city of San Francisco. Three primary treatment plants are currently in operation: the North Point plant, the Southeast plant, and the Richmond-Sunset (west side) plant.

The North Point plant, located at Bay and Kearny Streets, processes wastewater from the area of the proposed development. This plant treats about 60 percent of San Francisco's dry-weather wastewater. Its capacity is set at 190 mgd; average flow rates are around 60 to 65 mgd. Sewage outfalls are located beneath Piers 33 and 35.

The North Shore Outfalls Consolidation Plan has been proposed by the City to reduce wet-weather overflows from outfalls in the North Shore area. Current plans call for enlargement of the Southeast plant to a 180-mgd-capacity secondary

¹Kenneth R. Boyd, Assistant General Manager, Operations and Maintenance, San Francisco Water Department, telephone conversation October 23, 1975.

²Information supplied by Geoffrey Power, Associate Civil Engineer, Department of Sanitary Engineering, San Francisco Department of Public Works, telephone conversation October 23, 1975.

treatment plant. The date for completing the design of this plant has been set at June 1977. Construction could be assumed to require another two years or more. Upon completion, the Southeast plant would provide treatment for the dry-weather wastewater now treated at the North Point plant.

d. Solid Wastes¹

The Golden Gate Disposal Company includes the project site in its service area. Solid wastes are taken to the San Francisco transfer station and from there to a sanitary landfill in Mountain View.

The Mountain View landfill has a life expectancy of about eight years. Golden gate Disposal is currently collaborating with PG&E on studies of pyrolysis, an energy-recovery system whereby wastes are burned at extremely high temperatures, producing methane. It is possible that by the time the Mountain View landfill has reached its capacity a pyrolysis system will be ready for use in San Francisco.

Some recycling is currently being conducted by the Golden Gate Disposal Company. Ferrous metals are ground and removed from the refuse at the transfer station; a recycling program for newspapers and cardboard is also in effect. A

¹Information supplied by John Moscone, President, Golden Gate Disposal Company and Vice President, State Solid Waste Management Board, telephone conversation September 15, 1975.

program for further processing of ferrous metals has been considered but has been found to be economically infeasible at present.

e. Police Service¹

The San Francisco Police Department has jurisdiction over the project area. Census Tract 101, which includes the project site, has a general crime rate of 158.8 incidents per thousand persons. The immediate area of the site, Police Plots A-60 and A-62, generated 363 incidents requiring police intervention over a 12-month period.

f. Fire Protection

Fire safety regulations at the Port of San Francisco are promulgated by the Port Commission, with the San Francisco Fire Department serving in an advisory capacity. Fire control is under the jurisdiction of the Fire Department.

Three engine companies, two truck companies, a hose tender, two chiefs, a rescue squad, and the fireboat Phoenix are available for response to alarms at the site. Response time for the first arriving company is three minutes or less; if the fireboat is required, fifteen to twenty minutes is

¹Information provided by Lieutenant Michael F. Lennon, Planning and Research Bureau, San Francisco Police Department, letter October 14, 1975 (Appendix D).

estimated as travel time.¹ The San Francisco Fire Department also maintains an emergency rescue squad and the Underwater Rescue Unit, which are available as needed at the site.²

In May 1973, the San Francisco Bureau of Fire Prevention inspected Piers 37, 39, and 41. Specific instances of potentially dangerous uses (storing old vehicles, poor house-keeping, etc.) were noted and recommendations were made for improving structures where fire safety provisions were inadequate.

It was recommended that the wooden shed on Pier 41 be demolished, and this has been done. Recommendations for Pier 39 included upgrading the buildings and substructure to conform to the specifications of the Fire Department (included as appendices to the inspection report, these specifications outlined the systems and structural provisions necessary for fire protection in the piers and in buildings on the piers, and set standards for their construction): this would include an automatic sprinkling system, fire wall separations, and curtain boards or draft stops. An automatic sprinkling system was recommended for Pier 37, along with upgrading of buildings and the pier's substructure; the alternative of razing the pier was

¹René A. Gautier, Chief, Division of Planning and Research, San Francisco Fire Department, letter September 29, 1975 (Appendix E).

²Idem, letter October 3, 1975.

suggested.¹ No action was taken, and Pier 37 has since been destroyed by fire (Figure 23).

A resolution passed by the Port Commission in October 1973 names Piers 37 and 39 and four other piers to receive priority consideration for fire safety improvements.² No improvements have been made here, however, and Pier 39 still needs extensive improvements to insure adequate fire safety.

4. Transportation³

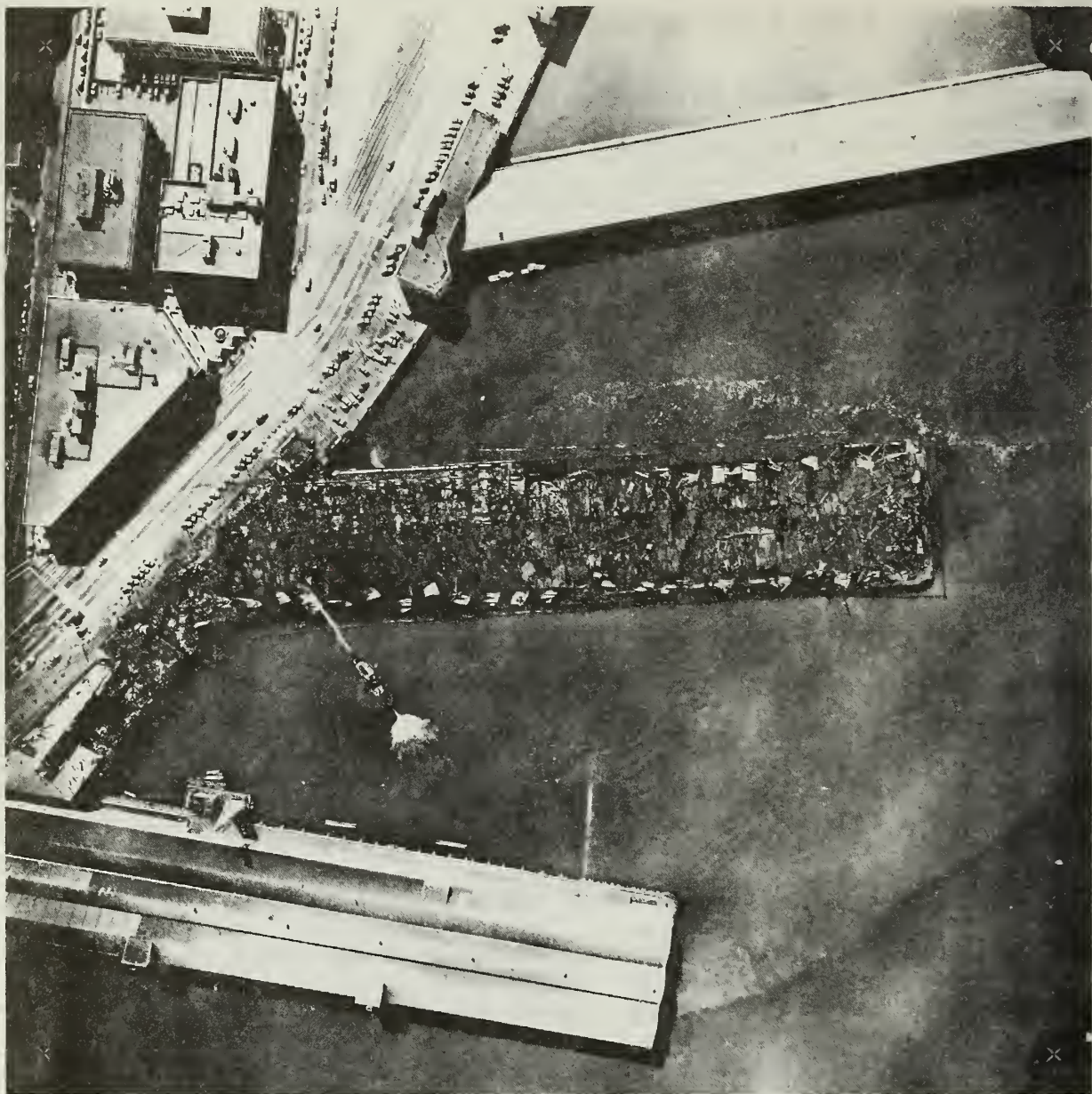
Primary access from the west and northwest to the project site is over North Point Street via Marina Boulevard or Lombard Street and Van Ness Avenue. From the south, Columbus Avenue is used as the major access road, and from the east and southeast the Embarcadero is the main access arterial. The Embarcadero and Van Ness and Columbus Avenues are the major arterials in the study area; the other streets serve as collectors.

Peak-hour and 24-hour traffic counts were made on streets near the project site. These indicate that the critical traffic days are Saturdays and Sundays and that no major

¹San Francisco Fire Department, Bureau of Fire Prevention, "Pier inspection report: Piers 37, 39, and 41," May 16, 1973.

²Resolution 73-11, cited in letter to Fire Chief Keith P. Calder from Lieutenant James Calden, Port Fire Marshal, October 25, 1973.

³The full text of the transportation study is attached as Appendix F. This section summarizes the information contained therein.



PIER 37 FIRE DAMAGE

FIGURE 23

traffic problems currently exist near the project site (Embarcadero, Powell, North Point). Two intersections (Jefferson-Taylor and Beach-Hyde) further from the project site are highly congested during peak hours. This congestion occurs mostly during midday to evening hours and is most severe on weekends and holidays, especially during the summer. It is caused to a large degree by the conflicts between pedestrians and vehicles and by the presence of too many vehicles for the carrying capacities of the streets.

The San Francisco Municipal Railway (Muni) operates three bus routes near the project site: 32, 19, and 15. Route 32 along the Embarcadero serves the site directly. A fourth bus route (30), along Columbus and North Point, is further away from the site. Muni also operates two cable car lines in the study area: 59 on Taylor and 60 on Hyde.

The Golden Gate Transit District, providing transit service between San Francisco and the North Bay and also within Marin County, operates buses between the North Bay and the Financial District during commute hours only; they are routed over Bay Street, Columbus Avenue, and North Point Street. During non-commute hours and on weekends the Golden Gate buses operate only over the Van Ness-Civic Center-Transbay Terminal route. The Golden Gate Transit District also operates ferries between the Ferry Building on the Embarcadero and Sausalito. Ferry service to Tiburon and Angel Island is provided by Harbor

Tours. Some of these ferries are operated from the Ferry Building and some from Pier 43½, near Fisherman's Wharf.

Alan M. Voorhees and Associates, Inc., conducted a survey on Saturday, September 5, 1975, to determine modes of travel to the waterfront area; Table 5 shows the results.

TABLE 5
Mode of Travel to Waterfront

	Location			Total (N=351)
	Beach/ Hyde (N=110)	Jefferson/ Taylor (N=146)	Pier 41 (N=95)	
Muni bus	3%	7%	7%	6%
Cable car	21%	13%	17%	17%
Tour bus	--	23%	3%	11%
Ferry, Golden Gate Bus	--	7%	--	3%
Total transit	24%	50%	27%	36%
Auto	46%	41%	64%	48%
Walk	22%	9%	9%	13%
Other (taxi, bicycle)	8%	--	--	2%

N = number of individuals interviewed.

Parking in the northern waterfront area is a problem at peak periods. During low-visitor hours and non-summer, weekdays, parking availability (even on the street) is sufficient. The parking problem in the area appears to be the high cost of off-street parking, which places on-street parking spaces at a premium and increases the traffic congestion by people driving around the area looking for on-street spaces.

Railroad facilities were originally developed in the northern waterfront area to serve Port activity, industries, and warehouses. Rail tracks are located along the Embarcadero serving the piers, along Jefferson Street through the Aquatic Park to the Presidio, and along North Point and Beach Streets. The importance of rail service has diminished as a result of changing land-use patterns and relocation of Port activities. Only a limited number of industries and institutions use the tracts. Tracks will be removed by the Port as piers are removed or when they no longer serve maritime use. The Federal government requires that one set of tracks remain along the Embarcadero and Jefferson to serve the Presidio. The Port, the Department of City Planning, and other City agencies are studying various concepts that would use at least one track, and probably two, for a surface rail streetcar line along the Embarcadero to serve Fisherman's Wharf.

III. ENVIRONMENTAL IMPACTS

A. PHYSICAL ENVIRONMENT

1. Seismicity

The proposed project would be subjected to future seismic activity centered on the major nearby active faults, primarily the San Andreas and Hayward. The Community Safety Element of the San Francisco Comprehensive Plan indicates that the landward portion of the site, an area underlain by manmade fill, could be subjected to liquefaction,¹ subsidence, and ground shaking during future earthquakes.

The piers within the project site were constructed in 1908-1909 and were designed with a load capacity of 500 pounds per square foot.² The proposed structure is expected to have a load factor of 200 pounds per square foot, or less than 50 percent of design capacity.

¹Liquefaction occurs when ground shaking forces water between particles of loose or medium-dense materials (sands, silts), causing them to lose stability and liquefy.

²C. Vickers, Port of San Francisco Engineers, telephone conversation June 2, 1976.

2. Oceanography

a. Waves

As waves move eastward from the ocean into the Bay, their energy is dissipated and they become lower. At the site of the proposed project, they are a maximum of about $4\frac{1}{2}$ feet high during a strong (40 mph) wind (see p. 42).

The estimated highest tide at the project site is $8\frac{1}{2}$ feet (p. 44). If a high tide coincided with a high wind, wave height would be about 13 feet. The breakwaters are designed to be 14 feet high; at this location there would undoubtedly be some splashing, but wave action would diminish by the time it reached the piers themselves.

The deep ocean swell waves hitting the (roughly) north-south Pier 41 breakwater would ordinarily splash up and bounce back with some force; however, the breakwaters are designed with holes in their west, or ocean, side to break up the force of the waves, much in the same manner that a colander under a strong stream of water dissipates the force of the stream while a solid surface such as a pie pan causes extensive splashing.

A tsunami expected to occur once in 100 years would have a height of 6.2 feet above mean sea level at the project site.¹

¹
A. W. Garcia and J. R. Houston, "Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound," U.S. Army Engineer Waterways Experiment Station, Technical Report H-75-17, November 1975.

Since mean sea level is 3.5 feet above mean lower low water, the total height of a tsunami would be slightly under ten feet, well below the height of the piers.

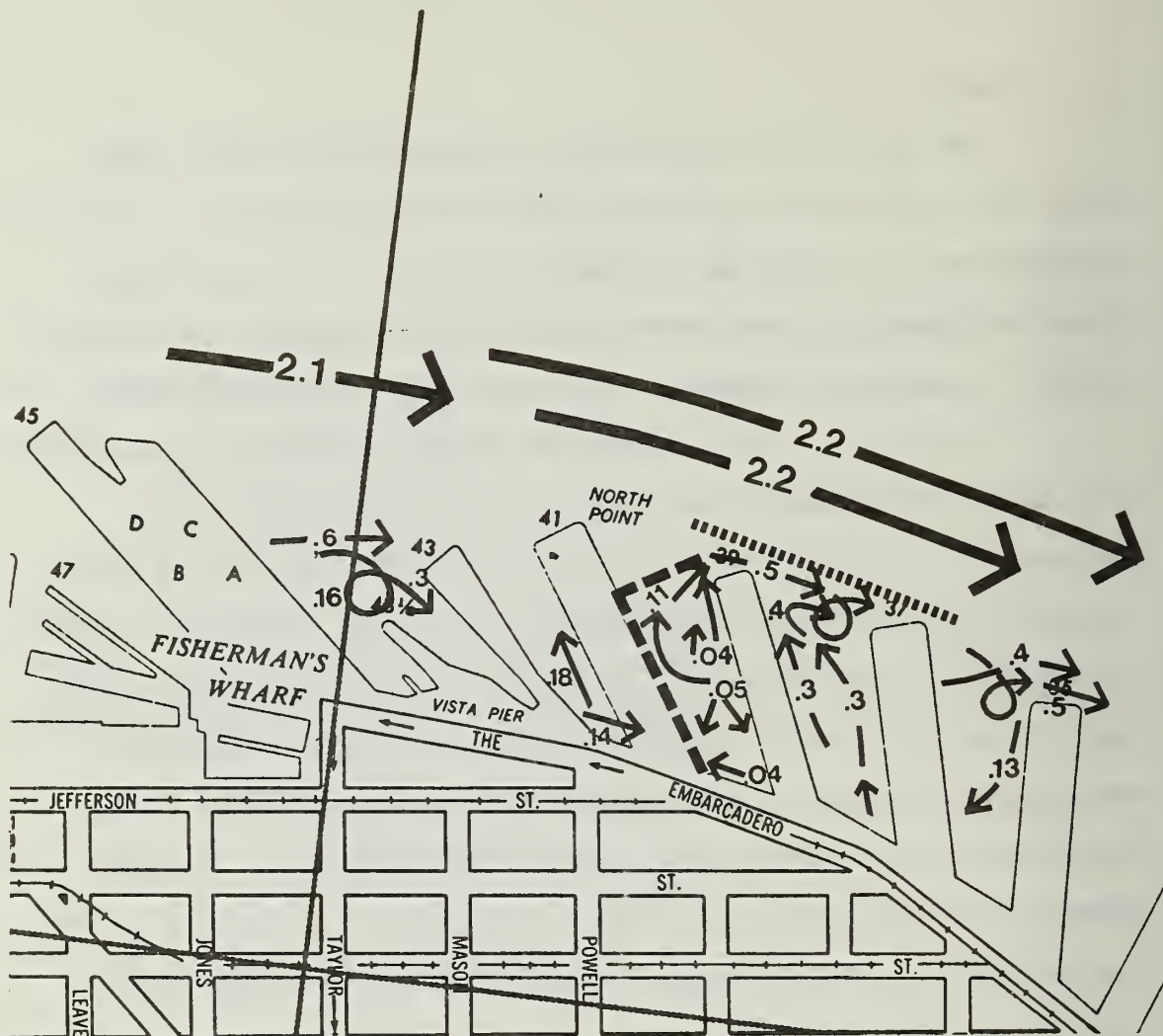
The receding waters of a tsunami can generate currents stronger than usual within the semi-enclosed Bay; however, most damage is confined to narrow channels, and tsunami-induced currents are expected to have little effect on moored boats or marina facilities at the project.

b. Currents

The flood and ebb current patterns that would exist after the construction of the fixed solid and detached floating breakwaters are depicted in Figures 24 and 25, respectively. These patterns were determined from studies made at the Army Corps of Engineers' San Francisco Bay-Delta Hydraulic Model.

During the flood tide, the current patterns beyond the pier ends would remain unchanged from existing conditions (Figure 17, p. 47). Within the area between Piers 35 and 41, however, current velocities would be reduced. The water would no longer flow parallel to the shore, but would tend to circulate in several small, clockwise gyres before rejoining the main current stream. Immediately west of Pier 41 the flood currents would be deflected around the breakwater. A clockwise gyre would occur just east of Pier 45 in a location similar to the one present under existing conditions (see Figure 24).

As in the case of the flood tide, the ebb current patterns that would develop beyond the ends of the piers after installation of the breakwaters would remain unchanged from existing conditions (Figure 18, p. 48). The current velocities would be decreased in the area between Piers 41 and 39 by the obstruction created by the breakwaters. The flow in this area would be deflected around the breakwater and would be accelerated as it passed through the gap formed by the floating and fixed breakwaters. An eddy rotating counterclockwise at a



← CURRENT DIRECTION

0.0 CURRENT VELOCITY
IN KNOTS

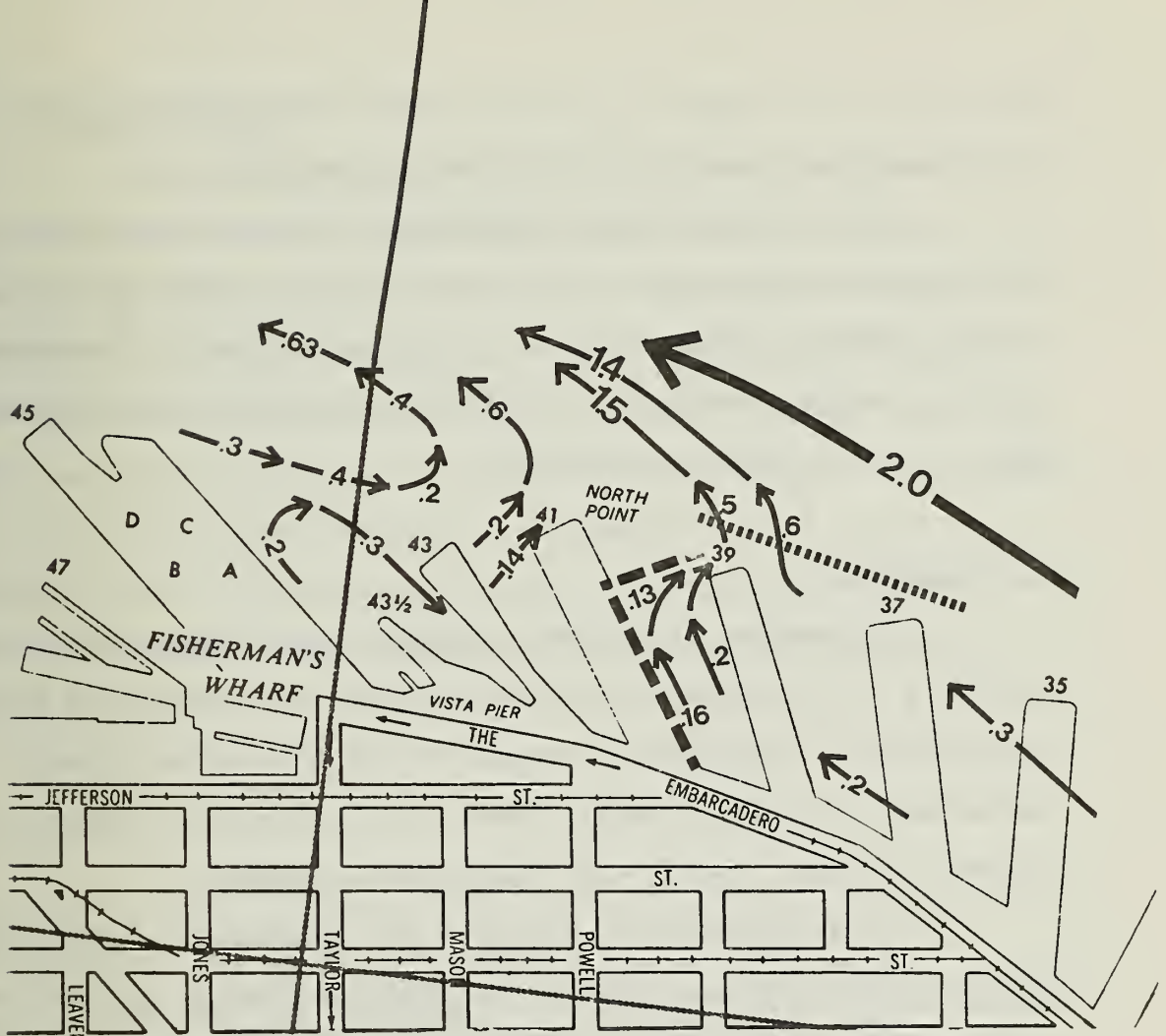
— FIXED
BREAKWATER

..... FLOATING
BREAKWATER

FLOOD TIDE CURRENT PATTERNS WITH BREAKWATER



FIGURE 24



← CURRENT DIRECTION

0.0 CURRENT VELOCITY
IN KNOTS

--- FIXED
BREAKWATER

..... FLOATING
BREAKWATER

EBB TIDE CURRENT PATTERNS FLOATING DETACHED BREAKWATER



FIGURE 25

velocity on the order of one-half knot would occur in the region between Piers 45 and 41 (see Figure 25).

The overall effects produced by construction of the breakwaters at the project site would be to reduce the velocity of both ebb and flood currents in the nearby water shoreward of the pierhead line and to create low-velocity (less than one knot) gyres in these same areas.

c. Sediments

The changes in current patterns (see Figures 17, p. 47, and 18, p. 48) caused by the construction of breakwaters would undoubtedly alter sediment deposition at the project site. Sedimentation would probably occur at a greater rate than at present in areas where water velocity is reduced.

It is difficult to estimate the magnitude of the post-construction sediment rates or to determine where the greatest sedimentation would occur. The increased sedimentation rates would probably be confined to the areas between Piers 41 and 39, and 41 and 43.

The present mean depth (at MLLW) of the project site is about 30 feet. Thus, even at an assumed increased sedimentation rate of 1.5 feet per year, maintenance dredging would probably not be required for at least ten years.

3. Water Quality¹

The proposed marina plan was analyzed for flushing time and dissolved oxygen depletion in order to determine its effect on water quality. Computations were made by Hugo B. Fischer² to predict the concentration of dissolved oxygen in the marina waters based on the calculated flushing time, the DO³ and BOD⁴ observed in 1974 and 1975 in neighboring waters, and the waste load contained in discharges from the North Point Water Pollution Control Plant and the Beach Street wet-weather outfall under present and proposed 1980 operating conditions.⁵

¹This section is based on Dames and Moore, "Oceanographic and technical setting and impacts," October 15, 1975.

²Professor of Civil Engineering, University of California, Berkeley, October 1975.

³Biochemical oxygen demand: The quantity of oxygen used in the biological processes that degrade organic matter under specified conditions.

⁴DO is a critical water quality parameter since its level, in part, determines the water's capacity to support life.

⁵According to the San Francisco Department of Public Works, 1980 is estimated as the earliest date that the North Point Transport System, which will convey north shore sewage to the Southeast plant, will be in operation. After this date, wet-weather overflows should be discharged into the Bay Waters off the north shore an average of once a year.

TABLE 6
Dissolved Oxygen (DO) Depletion

	<u>DO Depletion</u> mg/l	<u>Average DO of</u> <u>Marina Waters</u>	
		<u>Before</u> <u>Project</u> mg/l	<u>After</u> <u>Project</u> mg/l
Dry weather, peak effluent conditions	0.4	7.6	7.2
Wet weather, once-in-5-year storm conditions	1.1	7.6	6.5
Oxygen saturation (maximum DO possible)		10 ¹	
Regional Water Quality control Board minimum standard		5.0	

¹Oxygen saturation varies inversely as salinity and temperature. No measurements are available; the figure given is a rough estimate and indicates the order of magnitude (Jon Moore, Dames and Moore, telephone conversation June 16, 1976).

Effluent from the Beach Street wet-weather outfall will discharge floatable material, a portion of which would travel into the berthing area on an ebb current; some could be left on the boats and boat slips at the water line. Flushing times for the marina would be about 4.3 hours for flood current and 2.4 hours for ebb current conditions. Nearshore waters are now flushed with near-saturation ocean water by unimpeded tidal currents (see page 51).

4. Microclimate (See Appendix C)

The project as planned would decrease winds on the Embarcadero. The low-rise nature of the project buildings and their orientation with respect to prevailing winds would result in low wind speeds (less than 20 percent of the reference wind speed; see Appendix C) on Pier 39, except at its outer end and between some buildings.

Some areas of the project would be uncomfortable during construction, but completion of the project would reduce winds and increase comfort throughout Pier 39.

5. Air Quality

a. Temporary Impacts

Suspended particulate matter would increase downwind of the site during certain phases of construction. The potential for windblown dust problems is relatively high because winds in the area are generally the highest in San Francisco due to the lack of upwind (westerly) obstructions.

b. Permanent Impacts

Stationary sources of air pollutants within the project include space heaters and exhaust equipment from restaurant kitchens, which would emit mainly hydrocarbons and particulate matter. This type of equipment is exempt from the permit regulations of the Bay Area Air Pollution Control District.

The source of most pollutants associated with the proposed project would be project-generated automobile traffic. The traffic would affect both local and regional air quality.

1) Local effects

The most common air quality problem on the local scale is carbon monoxide (CO). Carbon monoxide concentrations due to local traffic have been estimated for Beach Street and the Embarcadero under meteorological conditions tending to restrict diffusion of CO.¹ The concentrations represent the contribution to local traffic only and do not include background levels. Current traffic information was supplied by the San Francisco Department of Public Works; projected traffic levels were developed in the Transportation Impact Study (Appendix F to this report). Emission factors were taken from data supplied by the Bay Area Air Pollution Control District.² The results are summarized in Table 7.

¹One-meter-per-second wind forming a 22½-degree angle with the roadway, under stable atmospheric conditions.

²Bay Area Air Pollution Control District (BAAPCD), Guidelines for air quality impact analysis of projects, Technical Services Division Information Bulletin, June 1, 1975.

TABLE 7

Local Contribution To Carbon Monoxide Concentration
parts per million

	<u>Embarcadero</u>		<u>Beach Street</u>	
	<u>1-hour Average</u>	<u>8-hour Average</u>	<u>1-hour Average</u>	<u>8-hour Average</u>
1975 (present)	6.3	1.6	1.3	0.3
1985				
With project (percent of 1975)	2.3 (36.5%)	0.6 (37.5%)	0.5 (38.5%)	0.2 (66.7%)
Without project (percent of 1975)	2.1 (33.3%)	0.5 (31.3%)	0.4 (30.5%)	0.1 (33.3%)
Federal ambient air quality standard	35	9	35	9

The Federal ambient air quality standards for carbon monoxide are 35 and 9 parts per million for the one-hour and eight-hour averaging times, respectively. Improvement in carbon monoxide levels is anticipated, despite increased traffic (with or without the proposed project), due to emission controls.

Another consideration is carbon monoxide concentrations within and near the parking structure at the intersection of Beach and Powell Streets. There is currently insufficient information on design or use patterns to estimate garage pollutant levels.

2) Regional Effects

Regional effects are related to the vehicle miles traveled (VMT) associated with the project. Maximum daily VMT have

been estimated for the project assuming the traffic generation alternative (A) with the smaller number of transit riders (see Appendix F). An average one-way trip length of five miles has also been assumed, as recommended by the traffic consultant.

Emissions were estimated using available emission factors¹ for an average trip speed of 25 miles per hour. Daily projected emissions, together with estimated future regional (nine-county Bay Area) emission, are shown in Table 8.²

TABLE 8
Automobile-Generated Daily Project Emissions
(tons/day)

	Project Emissions <u>Daily</u>	Estimated Regional Emissions	
		<u>1980</u>	<u>1985</u>
Carbon monoxide	0.35	2,500	2,400
Organics	0.05	950	1,050
Nitrogen oxides	0.10	750	1,000
Sulfur oxides	0.007	700	1,200
Paritculates	0.008	200	300

Energy would be supplied by electricity and natural gas, neither of which causes local air pollution problems.

¹BAAPCD, Guidelines for air quality impact analysis, 1975.

²Idem, Source inventory of air pollutant emission in the San Francisco Bay Area, 1973.

The products of natural gas combustion are relatively innocuous. Electricity for this area is generated elsewhere, where it may cause local environmental impacts. Because of recent natural gas shortages, the Public Utilities Commission issued Decision No. 85189, stating that generating plants will be the last to receive natural gas and will have to use low-sulfur fuel oil for generating electricity.¹ If this should happen, sulfur dioxide pollution could increase because fuel oil contains more sulfur than natural gas.

6. Noise

a. Noise Impact Criteria

San Francisco's Noise Ordinance² sets limits for noise from fixed sources and construction equipment. Limits on noise from fixed sources vary with zoning districts and times of day. Maximum acceptable noise levels are shown below for zoning districts adjacent to the project site in terms of the L₅₀ (see page 55 for definitions).

<u>Zoning District</u>	<u>Noise Level (L₅₀)</u>	
	<u>10 p.m.-7 a.m.</u>	<u>7 a.m.-10 p.m.</u>
C-2	60 dBA	70 dBA
R-4	55	60
M-1	70	70

¹Walter Cavagnaro, California Public Utilities Commission, telephone conversation June 15, 1976.

²San Francisco Municipal Code, Section 1, Part II, Chapter VIII, Article 29, 1972, revised 1973.

A common measure of noise impact is the "increase in the ambient" noise level, defined as the difference between the projected and existing noise environments. Because most noise impacts of the proposed project are automobile-related, automobile traffic noise criteria are appropriate. Traffic noise increase impact categories are shown below:¹

<u>Increase in the Ambient</u>	<u>Impact Category</u>
Less than 6 dBA	No impact
6 to 15 dBA	Some impact
Greater than 15 dBA	Great impact

Based on these categories, an increase in noise levels resulting from the project of less than 5 dBA over existing levels would be considered to have no impact.

b. Permanent Noise Impacts

Stationary sources associated with the project would include ventilation equipment, fans, air conditioners, and other electrical equipment.

Human activity and voices would increase noise levels in and near the project area. Vehicles serving the project would increase noise levels on Pier 39 and in the surrounding neighborhood, although the number of vehicles would be small.

¹Colin G. Gordon et al, Highway noise: a design guide for highway engineers. National Cooperative Highway Research Program Report 117 (Washington, D.C.: Highway Research Board, National Academy of Sciences), 1971.

Completion of the project would generate traffic and increase noise levels throughout the surrounding neighborhood by generating traffic, changing existing traffic patterns, and implementing an internal transit system. Based on a 3-dBA increase in noise per doubling of traffic volume, these increases would be on the order of 1 decibel or less.

On Powell and Stockton Streets, noise levels would be increased by about 2 decibels. Noise would increase by 1 decibel or less on Beach Street, North Point, and the Embarcadero. An increase in noise of 1 dBA is not perceived as a difference by the human ear.

Because of recent regulations on automobile and truck noise, an average 5-dBA decrease in noise is anticipated by 1995 over most areas of San Francisco.¹ Project traffic would counteract this decrease, so that noise levels near the site would improve less than in other areas of San Francisco.

c. Construction Noise

Construction phases of the project would temporarily increase the ambient noise level in areas adjacent to the site. Demolition of the structure on Pier 39 and pile driving for the addition to Pier 39 are likely to be the noisiest construction procedures. Peak noise levels occurring during operation of a

¹San Francisco Department of City Planning, Environmental Protection Element, The Comprehensive Plan, 1975.

diesel pile driver are generally between 100 and 107 dBA measured at a distance of 40 feet, or about 93 to 100 dBA at 100 feet.

Construction of the parking garage would have a greater impact on adjacent land uses than construction along the waterfront, since it would be closer to surrounding uses.

7. Biological Resources

Construction of the breakwaters and marinas would cause a loss of some bottom (benthic) habitat, temporary disturbance of adjacent bottom communities, and temporary increased turbidity in the water column. The loss of bottom habitat would be partially compensated for by the permanent removal of Pier 37 and the eastern half of Pier 41. The attached communities would be destroyed with removal of existing pilings, but the new marine structure would become populated with similar organisms.

Birds would be displaced from the immediate construction zones during construction periods but would be expected to use these areas again with cessation of construction. Increased sedimentation and maintenance dredging would affect marine organisms, particularly filter feeders such as mollusks.

8. Visual Impacts

The proposed parking structure would not provide visual interest at ground level for pedestrians.

B. SOCIAL ENVIRONMENT

1. Land Use

Additional restaurants, specialty shops, and tourist recreation uses would extend these activities eastward from the Cannery area, and a waterfront park would be created. The closest existing waterfront parks are Aquatic and Victorian Parks to the west. A 1,000-car garage would be built at Beach and Powell; surrounding land uses are non-residential.

2. Historic and Archaeological Resources

The Eagle Cafe would be demolished or relocated within the proposed project.

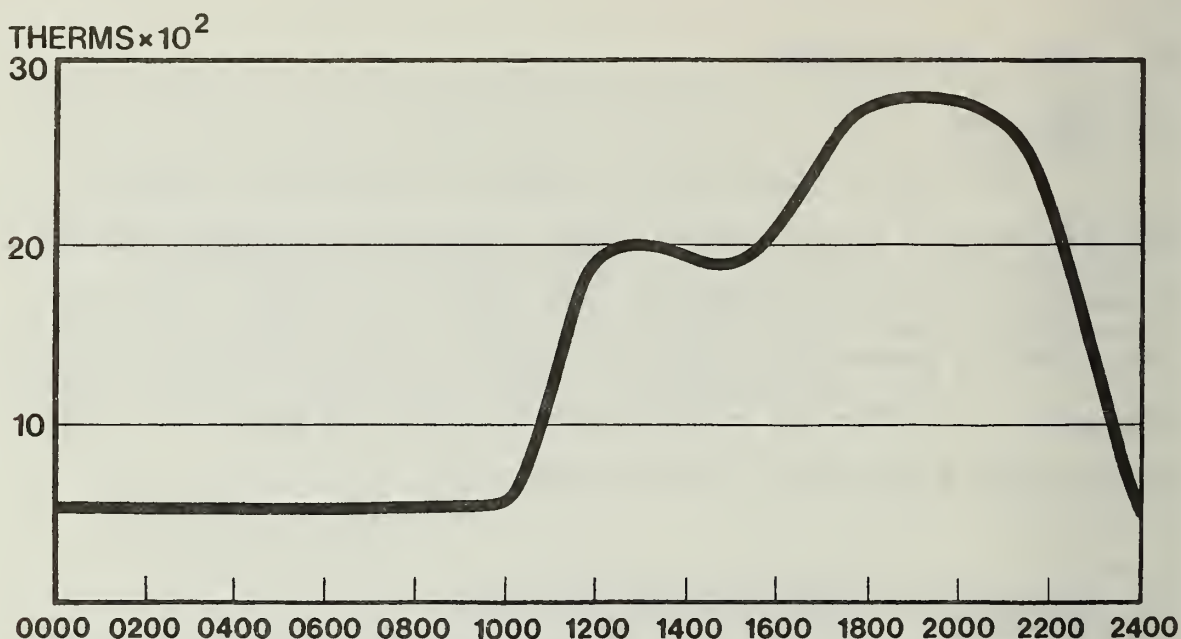
3. Public Services

a. Gas

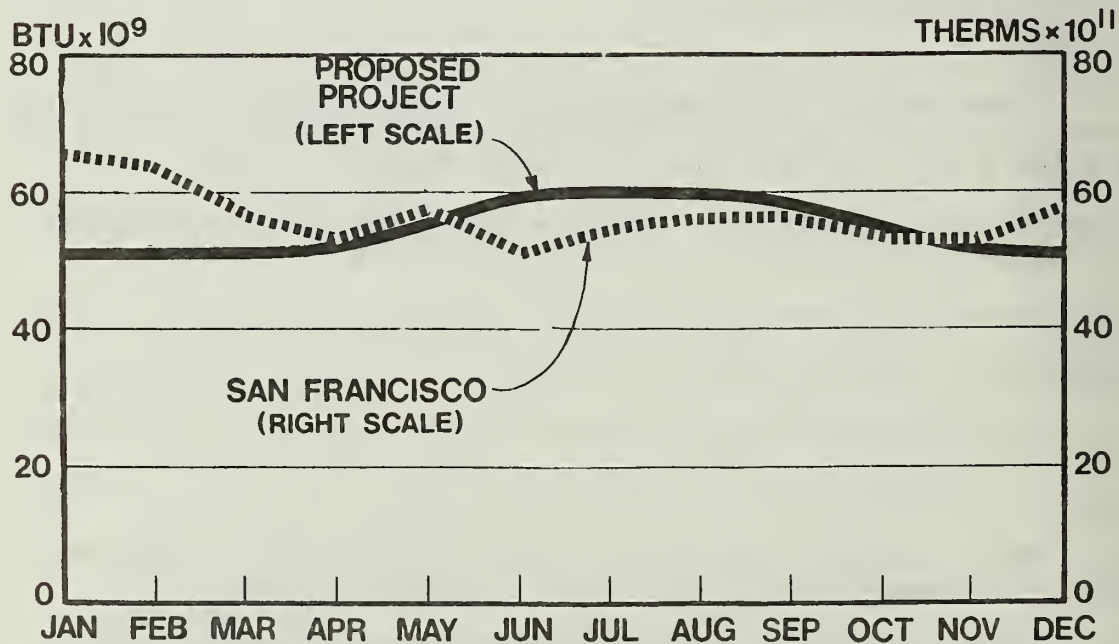
The natural gas consumption of the project is estimated at $2,100 \times 10^5 \text{ BTU}^1$ per day, or $1,050 \text{ BTU/sq. ft./day}^2$ (see Figure 26 and Appendix G). These figures are rough estimates,

¹ BTU: British thermal unit; the amount of heat required to raise the temperature of one pound of water one degree F.

² Dick H. Fujioka, consulting mechanical engineer, letter October 23, 1975.



HOURLY GAS CONSUMPTION



MONTHLY GAS CONSUMPTION

FIGURE 26

since it is difficult to anticipate consumption at this stage of planning. Daily peak demand would come at the dinner hour. San Francisco has two peak periods, one in the morning and one in the evening. The project would peak during the dinner hour, which is the lower of the two City peak demand periods.¹

Most of the natural gas consumed on the project site would be used in the restaurant kitchens for cooking and hot water; thus demand would fluctuate with the number of meals prepared, not with outside temperature. Consumption is not expected to have the normal San Francisco winter heating peak, but would reach a peak in the summer, at the height of the tourist season.

Any increase in demand on the firm natural gas supply in California increases the duration of service loss to interruptible customers.² By 1978, firm customers are expected to receive 100 percent of their demand; interruptible customers will receive 36 percent.³ As firm demands increase, the latter

¹Jerry O'Connell, Gas Dispatcher, Pacific Gas and Electric Company, telephone conversation June 3, 1976.

²Interruptible customer: One whose natural gas consumption exceeds 200,000 BTU per day; all such customers have an agreement with PG&E that their gas can be shut off on one day's notice. Interruptible customers must have a supply of fuel oil and equipment that can be switched from gas to fuel oil.

³California Public Utilities Commission, Summary report: 10-year forecast of gas utilities requirements and supply, 1974-83, December 13, 1974.

percentage will decline. Decreases in the interruptible natural gas supply will increase the demand for petroleum products and the incentives for energy conservation. The estimated gas consumption for this project is equivalent to 9,430 barrels of crude oil annually that could be consumed by interruptible customers.

It is expected that by 1983 firm natural gas customers in California will receive 78 percent of their demand.¹ Although firm requirements are expected to be met in northern California, the available supply will be low. The Public Utilities Commission anticipates that curtailment of gas supply to firm customers at the peak day will begin in the winter of 1980-1981. Based on these projections, the proposed project may not be able to obtain all of the gas it requires after 1980.

b. Electricity

PG&E would supply electricity to the Project through underground cables. The project's electrical consumption is estimated at 631,000 kilowatt hours (kwh) per month, or 3.15 kwh/sq. ft./month² (see Appendix G for computation).

¹California Public Utilities Commission, Summary report: 10-year forecast of gas utilities requirements and supply, 1974-83, December 13, 1974.

²William Mazzetti, electrical engineer, telephone conversation October 30, 1975.

Consumption is expected to reach a maximum during the summer because of air-conditioning loads. Figure 28 compares project and city electrical consumption. Maximum use of electricity by the project would occur shortly after the maximum city demand.

c. Water Supply¹

The project would consume about 149,000 gallons of water per day (0.15 mgd),² representing 0.11 percent of San Francisco's total consumption.³ Additional water would be needed for landscaping; the quantity would depend on the types of vegetation and the amount of landscaping included.

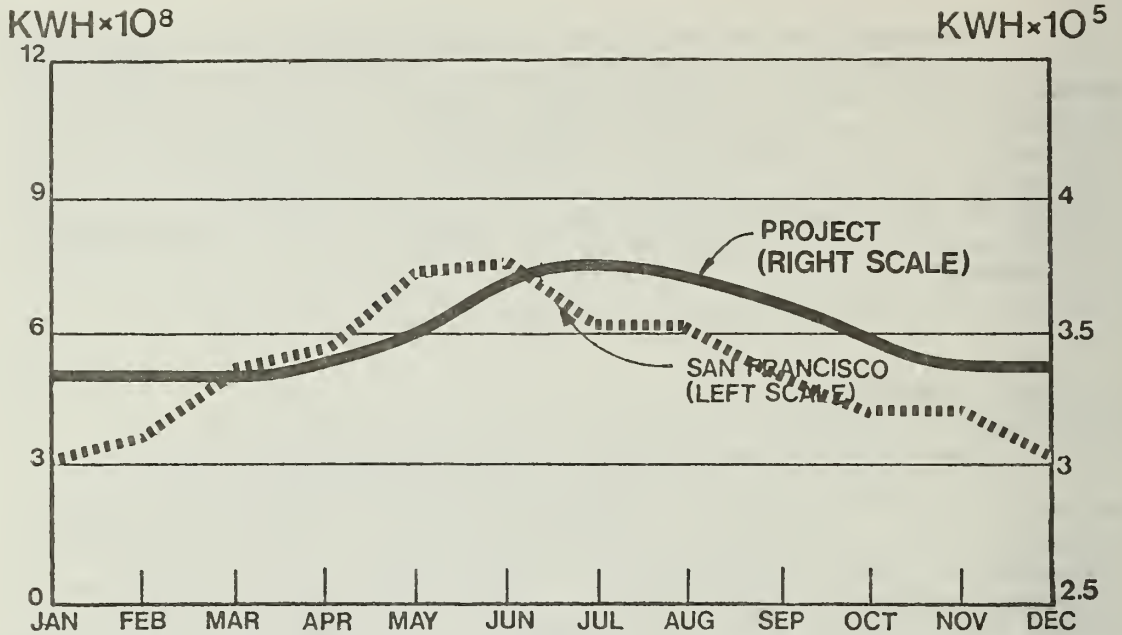
San Francisco currently has available about 250 mgd of water above its present consumption. The proposed project would represent 0.06 percent of this amount.

Installing or expanding connections for the site to the main beneath the Embarcadero would require some street excavation and associated repair. Work on the scale required by the project is performed in San Francisco an average of 300

¹Information provided by Kenneth R. Boyd, Assistant General Manager, Operations and Maintenance, San Francisco Water Department, telephone conversation October 23, 1975.

²mgd: million gallons per day.

³Consumption rates are based on wastewater generation rates (see Appendix H). While not all of the water consumed by the project would be released into the sewer system, the difference would be within the probable error of the estimate.



SAN FRANCISCO SOURCE:
 CALIFORNIA ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
 COMMISSION QUARTERLY FUEL AND ENERGY SUMMARY: SECOND QUARTER 1975

MONTHLY ELECTRIC CONSUMPTION

to 500 times per year. Except for the cost of the meter, the developer would bear financial responsibility for these operations.

d. Wastewater

The project would generate about 149,000 gallons per day (0.15 mgd) of wastewater, or 0.17 to 0.18 percent of the North Point Water Pollution Control Plant's current treatment load. Appendix H gives formulas used to compute wastewater generation.

Wastewater generated by the project would be less than 0.08 percent of the North Point plant's capacity of 190 mgd. This plant treats about 60 percent of the city's dry-weather wastewater; plans are to convert it to a wet-weather facility and to transfer dry-weather wastewater loads to an expanded southeast plant. The Department of Public Works has indicated that the proposed project could be adequately served.¹

The ban on new sewer connections imposed recently by the Regional Water Quality Control Board would delay construction of the project unless it is lifted by the time a building permit application is submitted.

¹Geoffrey Power, Associate Civil Engineer, Department of Sanitary Engineering, San Francisco Department of Public Works, telephone conversation October 23, 1975.

e. Solid Wastes

The proposed project would generate about 2,040 pounds per day of solid waste, or about 370 tons per year.¹ This represents 0.074 percent of total San Francisco solid waste generation as of August 1975.

Solid wastes have a cumulative impact over a period of years since, unless they are pyrolyzed, they remain physically present for some time after they are produced. Given a five percent per year increase in solid waste generation (based on the high estimate of Golden Gate Disposal), over a period of ten years the project would generate a total of 1,590 tons, or 3.8 percent of the solid waste generated in San Francisco in a single month (August 1975).

f. Police Service²

The proposed project could affect the services provided by the San Francisco Police Department in two areas: reported incidents requiring police intervention and traffic control.

Using the current rate of 158.8 incidents per thousand resident population in Census Tract 101, within which the project is located, the increase in population due to the project could

¹California Solid Waste Management Board, Solid waste generation factors in California, Technical Information Series Bulletin No. 2, July 8, 1974

²Information provided by Lieutenant Michael F. Lennon, Planning and Research Bureau, San Francisco Police Department, letter October 10, 1975 (Appendix D).

result in a maximum increase of about 120 to 135 reported incidents per year.

The San Francisco Police Department estimates its costs by dividing the total annual budget by the number of incidents handled in one year, resulting in a current figure of about \$625 per incident. Using this figure, the project would be assumed to necessitate an annual increase in police services costing about \$108,000 per year.

g. Fire Service

The San Francisco Fire Department has indicated that, providing all applicable codes and regulations are met, construction of the project should not affect the Department.¹

Because of the autonomy of the Port, the normal procedure is for each project to undergo individual review by the Port Fire Marshall, who specifies protection requirements. Any building used for public assembly, however, is subject to the jurisdiction of the City Fire Department under Title 19 of the California Administrative Code. The project plans were reviewed by the Port Fire Marshall and Lieutenant Calden and Chief Condon of the San Francisco Fire Department, and require, in addition to normal code requirements, the following:

¹René A. Gautier, Chief, Division of Planning and Research, San Francisco Fire Department, letter September 29, 1975 (Appendix E).

- 1) five 3" gated outlets accessible to fire equipment with 250-gallon-per-minute capacity above the fire sprinkler requirements; and
- 2) four drafting positions where equipment can be lowered into the Bay for pumping.

Special hazards are sometimes associated with public use of areas adjacent to bodies of water. Concerning the extent of such considerations, Chief René Gautier wrote:

The amount of added service required of the Fire Department by reason of opening the piers to the public is purely speculative and we have no records of any effect on past innovations such as the Maritime Exhibit at the foot of Hyde Street, or the Balclutha Exhibit, etc.¹

4. Transportation (See Appendix F)

a. Travel Generation

Table 9 shows the expected increase in the number of vehicles and transit riders to the northern waterfront area generated by the proposed project on a summer day. Existing traffic counts along streets in the project area are provided in Appendix F, Exhibit F-A.

¹René A. Gautier, Chief, San Francisco Fire Department, Appendix E.

TABLE 9

Additional Vehicles and Transit Riders
Generated by the Proposed Project¹

	Additional Vehicles ²		Additional Transit Riders ³	
	<u>A³</u>	<u>B³</u>	<u>A</u>	<u>B</u>
Friday	4,600	3,600	7,000	10,400
Saturday	3,900	3,100	7,000	9,900

¹The Department of Public Works has estimated 24-hour traffic generation during the weekend at 4,200, assuming the same modal split between vehicles and transit riders that exists for the present wharf facilities. Peak parking demand has been estimated as at least 900 spaces between noon and 1:00 p.m. on Saturdays (see Appendix I).

²Multiply by two for vehicle trips.

³Based on two levels of transit improvement:

A: Moderately improved (i.e., an internal shuttle bus within the northern waterfront area from Aquatic Park to the Ferry Terminal).

B: Significantly improved (i.e., extension of the Mason-Taylor cable car line to the waterfront and a bus or rail service between Van Ness Avenue and the Embarcadero BART station).

Since there is some reserve capacity on transit now serving the project area, an unimproved transit system may cause no problem. Under worst-case conditions, however, it is estimated that, with no change in transit, 5 to 10 percent more vehicles would enter the area on Friday (assumed as the peak day) than would enter with slightly improved transit service; this could increase the 4,600 vehicles to about 5,100. The added 460 vehicles would carry about 1,380 people who would be diverted from using the unimproved transit system.

A Planning and Operations Study being conducted for the Municipal Railway includes consideration of a loop line from the Southern Pacific Railroad station to Fisherman's Wharf, returning via Van Ness Avenue or Polk Street. In addition, it was recently announced that public funds originally earmarked for construction of the proposed Embarcadero Freeway may be available to the City and could possibly be used for roadway and transit improvements along the Embarcadero corridor.

b. Traffic Impact

The additional vehicle trips, assuming only a moderately-improved transit system (9,200 on an average Friday and 7,800 on an average Saturday), would be one-way trips that would arrive and depart on the same day. With significantly-improved transit, about 20 percent fewer autos would visit the project. The trips would be distributed throughout most of the streets in the northern waterfront area.

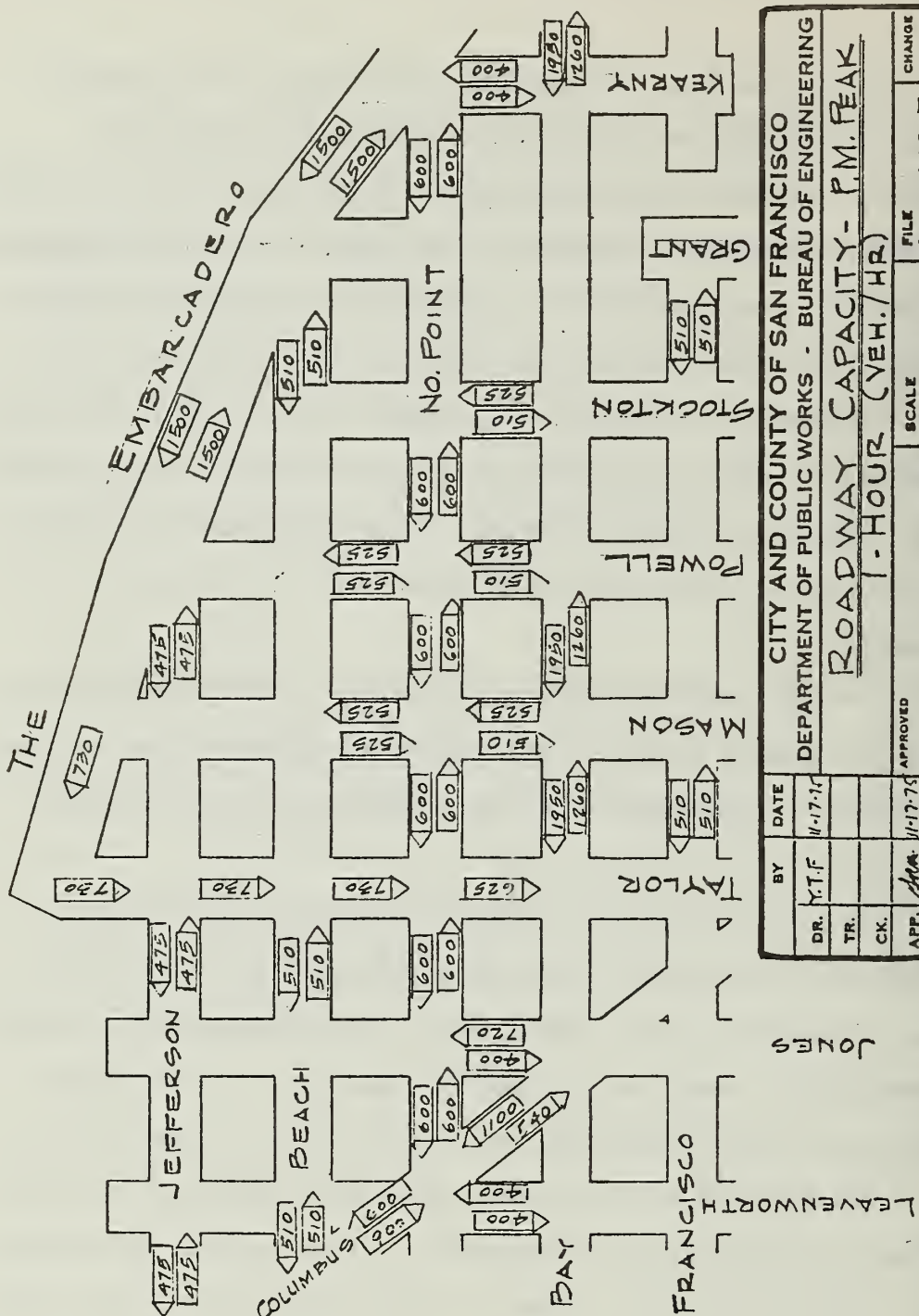
At the maximum, 10 percent of the daily additional vehicles are estimated to drive at peak hour in the peak direction. An additional 780 vehicle trips would thus be generated by the proposed project in the peak hour/peak direction on an average Saturday. It is assumed that the Embarcadero would be closed and that future traffic would use Beach and Powell. Appendix F, Exhibit F-E, shows the 1985 hourly traffic volumes estimated on the basis of existing traffic data and an average 1 percent annual increase. The percentage increase over 1985 volumes expected to be generated by the project is also shown.

The indicated distribution of the traffic assignments assumes one access point to the parking facility from the Beach and Stockton intersection and one access point from Powell Street.

Table 10 shows capacities of the principal streets affected (see Figure 28), present peak-hour traffic and its percent of capacity, and additional traffic generated by the proposed project and its percent of capacity. It is also assumed that Beach Street would continue as a two-way street.

Two hundred thirty-three additional vehicles in each direction on Beach Street represent a 24 to 32 percent hourly traffic increase on that street. The 24-hour increase in both directions would be 2,330 vehicles, an increase of about 14 percent over the 1985 ADT forecast (16,500). Two lanes in

PEAK ROADWAY CAPACITIES



CITY AND COUNTY OF SAN FRANCISCO		DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING	
ROADWAY CAPACITY - P.M. PEAK		1-HOUR (VEH./HR)	
BY	DATE	APPROVED	DATE
DR. Y.T.F.	11-7-75	APP. [Signature]	11-17-75
TR.			
CK.			
FILE	SCALE SHEET OF	SHEETS	CHANGE
			STR. 5479.5

Source: San Francisco Department of City Planning,
Final environmental impact report, North
Shore Outfalls Consolidation, December 1975.

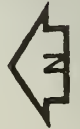


FIGURE 28

TABLE 10

Peak-Hour/Peak-Direction Capacities and Volumes

<u>Street</u>	<u>One-Way Peak-Hour Capacity</u>	<u>Existing</u>		<u>Project</u>		<u>Total</u>	
		<u>Vol.</u>	<u>% of Cap.</u>	<u>Vol.</u>	<u>% of Cap.</u>	<u>Vol.</u>	<u>% of Cap.</u>
Beach east of Stockton	510	250	49	233	46	483	95
Powell south of Beach	525	200	38	150	29	350	67
Jefferson west of Powell	475	350	74	78	16	428	90

Sources: San Francisco Department of City Planning, Final environmental impact report, North Shore Outfalls Consolidation, December 1975; and A. M. Voorhees, Transportation study, October 1975 (Appendix F).

each direction would be required on Beach Street with or without the project. These additional hourly volumes would increase congestion at the intersections along Beach Street and hamper their operation. Similar impacts can be expected on Beach west of Powell.

Hourly traffic increase on Powell would be from 75 percent at the peak hour to 111 percent at ordinarily low-volume hours. The total hourly volumes in each direction would be less than 370 vehicles, however, less than 70 percent of capacity and below the capacity of the intersections at Beach and North Point. The future level of service would depend on pedestrian conflicts, on-street parking conditions, and the bus activity around the bus depot between Powell, Beach, Stockton, and North Point.

The traffic increase on Stockton would be similar to the increase on Powell.

An additional 78 vehicles per hour per direction would be on Jefferson Street, an increase of 19 percent at the peak hour to 24 percent at ordinarily low-volume hours. This would bring Jefferson to 90 percent of capacity, aggravate the congestion at Jefferson and Taylor, and conflict with the high pedestrian activity along Jefferson Street.

Generally the traffic impact of the proposed project would be exerted primarily at the peak visitor periods, when pedestrian densities are high and road capacities are approached.

If the Embarcadero remained open upon implementation of the project, it can be estimated that about half of the 233 additional peak-hour vehicles that would be generated on Beach Street if the Embarcadero were closed would be added to the Beach Street traffic. The other half, i.e., 117 vehicles per direction per hour, would be added on the Embarcadero (westbound capacity 1,500; present westbound peak-hour volume 650; total 767, or 51 percent of capacity).

The 1985 hourly volumes on Beach Street would thus increase from about 100 westbound vehicles to about 220, an increase of about 120 percent to about 43 percent of the street's capacity. In the eastbound direction, hourly traffic would increase from 300 vehicles to 420 (40 percent), about 82 percent of capacity. One lane in each direction would be sufficient to handle the additional traffic if the Embarcadero remained open.

On the Embarcadero, which has a capacity of 1,500 in each direction at this location, hourly traffic would increase from about 880 westbound vehicles to about 1,000 (67 percent of capacity), and from about 420 eastbound vehicles to about 520 (35 percent of capacity). These traffic increases are moderate and their impact would be felt only at peak visitor hours, when pedestrian densities would be high.

If the Embarcadero were narrowed to two lanes westbound, the eastbound traffic would be diverted onto Beach Street. The impact in terms of additional vehicle volumes on Beach Street would be about half the impact if the Embarcadero were fully closed. Two lanes eastbound on Beach Street would probably be required.

c. Transit Impact

Leaving the Embarcadero open would reduce the traffic impact on Beach Street and would not require widening it to four traffic lanes. Many people who would park their cars in the proposed garage would have to cross the Embarcadero to get to the piers. A covered wooden pedestrian bridge connecting the garage to the commercial recreation area on Pier 39 is planned to mitigate conflicts between vehicle flow on the Embarcadero and pedestrian crossings. Such a bridge would not be consistent with the City's urban design policies.

If the Planning Commission closed the Embarcadero to vehicular traffic or disapproved the bridge, the pedestrian bridge would be eliminated.

Ridership would increase on the transit routes as a result of the increased travel generation, and this would increase the fare box revenues. Assuming the least favorable modal split¹ levels, the additional transit trips would amount to 11,100 on an average Friday and 7,000 on an average Saturday.

Total revenues would not increase if the increased transit ridership were to necessitate additional transit service. This might be the case for the Mason-Taylor cable car, especially if it were extended to the Wharf area itself.

d. Parking Impact

The highest parking need would be on Friday afternoons from noon to 3:00 p.m. Parking needs would range from 750 to 1,180 spaces (including the 150 spaces for Harbor Carriers, Inc.²), assuming a moderately-improved level of transit service.³ Most of the parking need would be generated by the restaurants.

¹Modal split: Percentage of the total number of trips made by each mode of conveyance.

²The developer is required through his contract with the Port Commission to provide 150 spaces to Harbor Carriers, Inc.

³The Department of City Planning's estimates of parking needs differ from those prepared by A. M. Voorhees and Associates, Inc. (Appendix F). The range of parking needs includes projections from the two sources. The City estimated 750. The City's projections of parking needs appear in Appendix J.

Assuming a much improved transit service (Appendix F, Alternative B), parking need would range from 640 to 980 spaces, a decrease of about 16 percent. These estimates of parking need are for a typical summer Friday, at the height of the tourist season.

One thousand parking spaces are proposed for the project. Subtracting the 150 spaces reserved for Harbor Carriers, 850 spaces would be available to satisfy the additional demand generated by the proposed project. This would be at the lower end of the projected demand for the Friday peak period. If actual demand approximated the upper estimate, a shortage of 330 spaces would result; a surplus of 100 spaces would exist if demand approximated the low estimate of 750 spaces.

If fewer parking spaces than needed were provided, drivers would have to park in other facilities in the area or further away at on-street parking spaces, forcing them to cruise around to find a space. Some of the excess demand could be absorbed by parking facilities in the eastern part of the Fisherman's Wharf area, especially on weekdays. Making it more difficult to park close to the project at peak periods, by increasing the general parking shortage at those periods, would induce more drivers to use other modes of transportation in the long term.

e. Railroad and Freight Facilities

With the proposed project, tracks and storage area for train cars along the Embarcadero would be removed and replaced

by the park area, except for one pair of tracks to serve the Presidio and the railway ferry loading slip at Pier 43. The San Francisco Belt Railway provides daily service at three locations west of Pier 35 in addition to the Presidio and Pier 43.¹ Development of the proposed park could restrict future operation along the tracks. Any future opportunity to use the existing tracks for other transportation or transit would be reduced.

¹Rick Cecile, San Francisco Belt Railway, telephone conversation June 3, 1976.

C. ECONOMIC ENVIRONMENT

1. Impact on Regional and Local Demand for Restaurant and Retail Space

Recent estimates show that there are currently about 20 million square feet of retail space (which includes eating and drinking establishments) in San Francisco. Projections of future increases in retail space for the city indicate a net increase of 726,000 square feet by 1985, of which 55 percent would take place in major commercial areas of the city (Table 11). For the year 2000, net change in retail space in San Francisco is estimated to range from a decline of 1.4 million square feet to an increase of 4.7 million square feet. For the Northeast District, which includes the northern waterfront area, comparable projections are 63,400 square feet by 1985 and a range of 250,000 to 420,000 square feet by the year 2000¹ (see Figure 29).

The proposed project, with 200,000 square feet, would fall within the projections for the year 2000 but would exceed the projections for 1985 by more than 136,000 square feet. This indicates that it would consume most of the expected increase in retail space for the northern waterfront area and that in the short term, the project would provide more retail space than projected demand. This could have a short-term retarding impact on the growth of

¹Arthur D. Little, Inc., Commercial and industrial activity in San Francisco: present characteristics and future trends, June 1975.



Source: Arthur D. Little, Inc., Commercial and industrial activity in San Francisco, June 1975.

MAP OF NORTHEAST DISTRICT



FIGURE 29

existing commercial establishments in the Fisherman's Wharf area, since the area would be overbuilt until growth in demand overtook supply.

TABLE 11

Projected Net Change in Retail
Space for San Francisco and Northeast
District: 1973-2000

	Net Change (1,000 sq. ft.)		
	1973-1985	1973-2000	
		Low	High
City-Wide	726.0	1,420	4,690
Northeast District	63.4	260	420
North Point Marina Development			200

Source: Arthur D. Little, Inc., Commercial and industrial activity in San Francisco: present characteristics and future trends, June 1975.

A study by Williams-Kuebelbeck¹ concludes that the proposed project "could be absorbed over time without substantial impact upon existing establishments in the area" (see Appendix K). Future sales in restaurants and retail establishments were estimated for this study. The report projected an increase in restaurant sales

¹Williams-Kuebelbeck and Associates, Inc., Feasibility study for small craft harbor improvements at Fisherman's Wharf, April 16, 1976, p. 129.

of \$9.7 million from 1974 to 1985 for the Fisherman's Wharf area, based on total annual sales in San Francisco of \$221 million in 1985 and assuming that 50 percent of future increases would take place in the Fisherman's Wharf area. Assuming that the new restaurants would generate about \$100 of annual sales per square foot, 97,000 square feet of new restaurant space could be supported by the projected increase in demand of \$9.7 million. The study concludes that additional facilities would create a shift in demand from other areas of San Francisco and that such a shift would account for absorption of the remaining 36,000 square feet of restaurant space proposed in the project.

Based on the data for increase in restaurant demand, the 133,000 square feet of restaurant space proposed for the North Point Marina development would capture about \$13.3 million of the total expected growth in restaurant sales in San Francisco of \$19.4 million between 1974 and 1985 (Appendix K), which is almost 70 percent of the total.

On a short-term basis, the proposed project may affect sales of existing restaurants in the area as well as those in other areas of San Francisco. The Williams-Kuebelbeck report projects an increase in restaurant sales in San Francisco of \$8.4 million between 1974 and 1980. If the new restaurants in the North Point development operated at an average of \$100 per square foot, the project would generate about \$13.3 million in sales, considerably more than projected growth for the entire

City. This would indicate that in the short run, restaurants in the development could operate at levels below \$100 per square foot and/or existing restaurant operations in the Fisherman's Wharf area could experience reduction in sales.

Port of San Francisco records for the years 1965-1975 show, however, that major Wharf restaurants as a group experienced an increase in total sales of 109 percent, or an average of nearly 11 percent annually. Accounting for inflation, these restaurants probably averaged five to six percent annually (see Appendix L). During 1974, restaurants in the Fisherman's Wharf area grossed \$40 million in sales, for an average of \$154 per square foot (based on 260,000 square feet)¹, considerably higher than the \$100 per square foot standard for profitable operation.

Assuming that the 133,000 square feet of project restaurants were to have average sales of \$100 per square foot, total annual gross sales would be \$53.3 million on 393,000 square feet of space, for an average of \$136 per square foot based on 1974 figures.

According to the Williams-Kuebelbeck report, the 67,000 square feet of specialty retail space proposed in the North Point Marina development could be absorbed with less than 20 percent penetration of net new demand through 1985.

¹See Appendix K.

By increasing restaurant and retail spaces along the northern waterfront, the proposed project would have short-term impacts on related activities in the area and the city as a whole in terms of increased competition, especially on restaurant operations. Surplus restaurant space may be created in the short term and may require some time to be absorbed and provide sufficient business for all operations.

A survey of similar commercial complexes in various West Coast locations indicates that in most instances, the addition of new facilities has increased overall sales. Evidence from complexes in Seattle, Marina del Rey, and San Diego indicates that the "clustering effect" has not impeded sales growth in the total volumes of the complex, but in many cases (according to respondents) has been the primary determinant.

The considerable variety in performance levels from one restaurant, shop, or activity area to another calls for caution in the consideration of the apparent overall market, or the long-term potentials for operators at any given time. Yet the evidence generally available supports a belief that, in most instances, the addition of new facilities to an activity area has increased overall sales, not reduced them (see Appendix L).

A recent economic analysis¹ states:

"The amount of retail space (67,000 square feet) proposed for the site could be reasonably supported given that the proposed project is able to achieve a distinctive market identity. We feel that the project, as currently conceived, should be able to achieve such an identity. The planned retail space would likely compete with existing retail shops at Fisherman's Wharf, The Cannery and Ghirardelli Square. However, the project is also likely to generate new demand of its own. This coupled with the increase in specialty retail demand projected in the Northern Waterfront, should minimize any loss of retail sales of these existing complexes. The development of a significant amount of retail space on Piers 37-41 would probably preclude any large retail complex on Pier 45, and vice versa.

"In order to support the restaurant space proposed for the site, it would require a large portion of the demand for new restaurants projected for the entire Northern Waterfront be concentrated at Piers 37-41. Without the substantial increase of additional demand brought on by new projects, the proposed restaurants would probably eliminate any other significant restaurant development potential along the Northern waterfront for ten years. In the event that all the restaurant space proposed is actually

¹Williams-Kuebelbeck and Associates, Inc., Economic analysis: Northern Waterfront planning program, prepared for the San Francisco Department of City Planning. Redwood City, July 16, 1976.

built, it may take as long as 8 to 10 years for it to attain realistic business volumes. Obviously, the developer/lessees phasing program would reflect such marketing phasing if extreme financial risk is to be avoided.

"The restaurant complex at Piers 37-41 would provide substantial competition for existing restaurants in the area and, even in view of the new demand generated by this project, business at existing facilities may decline because of this development. Since business volumes at existing competitive facilities are so high currently, this competitive market adjustment should not be harmful to the overall business health of the area. As a matter of fact, the development of this project might even create an improvement in the efficiency and service of existing businesses due to this added competition."

2. Demand for Sport-Fishing Berths

There are now about 28 sport-fishing boats in San Francisco. According to C. Anfinson, president of the Committee for

the Improvement and Preservation of Sports Fishing in San Francisco, the number of sport-fishing boats moored in San Francisco has been steadily decreasing due to inadequate facilities.¹

Plans by the Army Corps of Engineers and the Mayor's Citizens' Committee for improving Fisherman's Wharf include the provision of space for sport-fishing boats. Although these plans are not final, Alessandro Baccari, chairman of the Mayor's Citizens' Committee for the Preservation and Beautification of the Fisherman's Wharf Area, indicated that providing berths for sport fishing is not a critical aspect of the committee's proposal.²

They would gladly provide some docking space; however, their emphasis is on providing berths for commercial fishermen. If provisions were made for sport-fishing boats elsewhere in San Francisco, it would not detract from plans for Fisherman's Wharf. If berths are not provided elsewhere, some will be included in their plans for the Wharf.

All the sport-fishing vessels now at Fisherman's Wharf would probably relocate in the North Point Marina provided that a competitive rate were charged. Additionally, some boats that have left and are now located in other cities (e.g., Emeryville, Sausalito) may return to San Francisco. This would not affect

¹Telephone conversation October 1975.

²Telephone conversation October 1975.

other cities, to the extent that these berths can be used for small pleasure boats. If berths for sport fishing are planned at the proposed Brisbane marina, the project would reduce demand for berths at Brisbane.

3. Demand for Small Boat Marina

There are about 700 berths at the San Francisco Marina, with a waiting list of about 900 as of September 1975.¹ An informal survey of other marina facilities in the area indicated an unmet need for small pleasure boat docking space. The Oakland Marina has about 800 berths and any vacancies are filled immediately. The Alameda Marina has a waiting list of 100. The Point San Pablo Yacht Harbor and the Berkeley Marina are also full; in the latter, small boats wait for berthing space for an average of about a year.

4. Employment

An estimated 20 million dollars would be spent on construction of the project. Assuming about 45 percent of construction cost for labor, \$9 million would be paid in construction salaries. At an hourly wage of \$9.61,² about 937,000 person-hours, or 488 person-years, of work would be generated.

¹Williams-Kuebelbeck and Associates, Inc., Feasibility Study for small craft harbor improvements at Fisherman's Wharf, April 1976. Based on Harbormaster's Records, San Francisco Municipal Marina.

²U.S. Department of Labor, Bureau of Labor Statistics, telephone conversation August 1975.

Employment figures for the proposed restaurants are based on 133,000 square feet of space. At one employee per 150 square feet of restaurant development, about 890 jobs would be created. Development of 66,700 square feet of retail shops and entertainment facilities would give rise to an additional 133 jobs at one employee per 500 square feet.¹ An estimated twenty-five management and maintenance jobs are also expected to be created by the project. The 50 sport-fishing boats, at two persons per boat, could employ an additional 100. Some of these may be jobs relocated from elsewhere.

TABLE 12

Estimated Employment Generation

	<u>Total Project</u>
Construction costs	\$ 20,000,000
Person-years of construction	488
Permanent employees:	
Restaurant	887
Retail shops and entertainment facilities	133
Management maintenance	25
Sport-fishing	<u>100</u>
Total	1,145

¹Based on the ratio of one employee per 400 to 600 square feet of space. Floor space includes both sales and support spaces. (Baxter, McDonald & Smart, Inc., Socioeconomic impacts of environmental policies, October 1973).

5. Revenues (see Appendix M)

Revenues generated by the North Point Park/Marina (1975 tax rates) to the City and County of San Francisco would come from several sources.

Sales tax	1% of gross sales (State of California, Department of Taxes)
Employees' payroll tax	1.1% of employee payroll (San Francisco Tax Collector)
Parking tax	9.1% of gross parking receipts or 10% of net receipts (San Francisco Parking Authority)
Utilities tax	5% of utility costs (San Francisco Public Utilities Commission)
Personal property tax	Assessed value x 25% x tax rate OR \$11.50/\$100 appraised value (San Francisco Assessor's Office)
Possessory interest tax	Assessed value x 25% x tax rate OR \$11.50/\$100 appraised value (San Francisco Assessor's Office)

TABLE 13

Estimated Annual Revenues

Sales tax	\$ 400,000
Employees' payroll tax	43,000
	(99,000) *
Parking tax	100,000
Utilities tax	18,000
Personal property tax	290,000
Possessory interest tax	<u>730,000</u>
Total annual revenue to the City and County	\$ 1,580,000 (error due to rounding)

*Construction (not included in total); all other figures are annual.

IV. UNAVOIDABLE ADVERSE IMPACTS

A. TRANSPORTATION

Traffic generated by the proposed project, in conjunction with increased pedestrian activity, would add to the congestion of streets and intersections in the area. This congestion would also hamper the movement of transit vehicles. The demand for parking near the northern waterfront would increase (see Section V.H for mitigation measures).

B. SEISMIC ACTIVITY

Typical of the Bay Area, seismic activity could do possible damage to the proposed project. Since the onshore portions of the development would be constructed on fill, they would be particularly susceptible to damage.

C. SEDIMENTATION

Changes to existing current patterns caused by the construction of breakwaters would probably cause increased sedimentation within the project site. This would probably be confined to the areas between Piers 41 and 39 and Piers 41 and 43.

D. WATER QUALITY

Unsightly floatable debris from the Beach Street wet-weather outfall and small craft using the marina would be temporarily trapped in the marinas.

E. AIR QUALITY

Increased traffic in the area would cause increases in local concentrations of carbon monoxide. Projected levels of carbon monoxide concentrations would be below present Federal air quality standards (see page 88).

F. BIOLOGICAL RESOURCES

To the extent that the project increased the sedimentation rate in the immediate area, resulting in a subsequent need for maintenance dredging, it would increase the potential for disturbance of the aquatic environment. Primarily affected would be the benthic, or bottom-living, communities removed in the dredging process.

G. COMMUNITY SERVICES

The project would increase the demand for City services (including police and fire protection, solid waste collection,

and wastewater treatment) and exert a demand on the supply of natural gas and electrical energy.

H. ECONOMICS

Business attracted to the proposed project would probably represent a volume loss to nearby Fisherman's Wharf merchants until a predicted project-induced increase in total area volume took place.

V. MITIGATION OF ADVERSE IMPACTS

A. SEISMIC HAZARD

Seismic studies to insure public safety of Pier 39 would be undertaken by the developer prior to the issuance of the required building permits. The condition of the piles and their ability to support the proposed structure would be investigated.

The developer would conduct extensive engineering studies, and the design and construction of the project's foundation, superstructures, and utilities in compliance with engineering recommendations based on such studies would minimize damage that might occur during future seismic activity. The developer would comply with the engineering recommendations.

B. INCREASED SEDIMENTATION

If the project increased the need for maintenance dredging, the dredging program currently operated by the San Francisco Port Commission to maintain navigable depths along the waterfront would remove shoaled material from the project area.

C. ACCUMULATION OF FLOATING DEBRIS

By 1980, the North Point Transport System is expected to be in operation, which would reduce the influx of floatable matter to the marina area, since the Beach Street outfall would

be used infrequently after that date. This would lessen the need for mitigation measures by the developer. The developer would clean floating debris trapped in the marina as the need arose.

The developer would take design measures to reduce the possibility of fuel spills from gasoline-pumping facilities in the marina.

D. FIRE SAFETY

To reduce fire hazards, sprinkling systems would be installed by the developer throughout Pier 39 and in all structures on the pier. Access for fire-fighting vehicles would be maintained at all times around the periphery of the pier (see Appendix E).

E. HISTORIC ARTIFACTS

Should any artifacts be uncovered in the construction of any aspect of the project, the contractor would be legally obligated to stop construction to permit professional evaluation of the find. The staff of the San Francisco Maritime Museum would be consulted.

F. PUBLIC AMENITIES

The following features are included in the project by the developer to provide for and encourage public use of the area:

- Depending on the Planning Commission's decision on closing the Embarcadero to vehicular traffic, a park 4.2 to 5.4 acres would be built and maintained by the developer.
- Access to the waterfront would be provided along the entire periphery of the project in compliance with BCDC policies.
- The fixed breakwater where Pier 41 is now located would be designed to accommodate recreational fishing. Engineering studies are being made to determine whether the fixed breakwater perpendicular to Pier 39 would be able to accommodate pedestrian traffic and/or recreational fishing.

G. ENERGY

Because of its high natural gas consumption, the proposed project would be an interruptible customer of PG&E (see page 96), and it is possible that after 1980 gas would not be available to the project. The developer would have to have an alternative fuel supply (usually fuel oil) and equipment (furnaces, stoves) that could be converted from one fuel to another.

The following energy-saving measures are being considered by the project's mechanical engineer for restaurants in the development:

- Economizer on each heating and cooling unit to use outdoor air for cooling.
- Heat recovery systems on kitchen hood exhausts.
- Solar preheating of hot water.

On-site wind power generation was considered by the developer; however, the cost was found to be seven times that of PG&E-supplied power and this plan was dropped.

Implementation of these measures by the developer would depend primarily on their financial feasibility.

If the new State energy conservation standards¹ are adopted, the project would be required to comply with them. The structures are being designed with this in mind.

H. TRANSPORTATION PLANNING

1. Travel Generation

The amount of travel generated by the proposed project could be decreased by influencing the travel- or visitor-generation rate. This could be achieved, for instance, by constructing more luxurious restaurants with lower turnover rates and fewer seats per thousand square feet; by constructing sport-fishing berths for smaller boats; or by constructing facilities with smaller trip-generation rates, for example, more stores and fewer restaurants. These measures are under consideration by the developer. The actual uses would be determined based on financial feasibility.

Vehicular travel between the proposed project and other areas of the northern waterfront could be reduced by building convenient walking links or by instituting a shuttle bus

¹California Administrative Code, Title 24, Building standards, Part 6, "Special building regulations," Division T20, "Public utilities and energy," Chapter 2, "State Energy Resources Conservation and Development Commission," Article 4, "Regulations for energy conservation: energy conservation standards for new nonresidential buildings," Sacramento, May 29, 1975.

service to the waterfront. The developer is examining ways to improve the connection between the project area and Fisherman's Wharf, such as extending the people-mover routes to the Wharf area, and may institute such a plan if it is financially feasible.

2. Traffic

Traffic impacts could be mitigated by traffic engineering methods to improve flow conditions. Such measures would not be the responsibility of the developer and would have to be implemented by the City. Measures that could be considered by the Department of Public Works include:

- separate signal phases for pedestrians.
- prohibition of left or right turns at some intersections.
- new traffic signals (costing approximately \$25,000 per intersection).
- addition of turning lanes.
- elimination of on-street parking.
- creation of one-way street pairs.
- a car-free pedestrian zone along the Embarcadero.
- rerouting of bus lines.
- relocation of the Taylor Street cable car turntable to extend the line.
- increase of cable car fares at times of peak use.
- a rail line connecting the Southern Pacific train terminal and BART to Fisherman's Wharf.
- wide sidewalks between the proposed project and major transportation terminals.

The City would have to evaluate the environmental impacts of each of the possibilities, together with possible local economic impacts and relative needs for expenditure of City funds for other purposes.

3. Parking Garage

Access and exit points of the proposed parking garage should be planned by the developer so that peak in and out movements can be accommodated with the least possible impact on the traffic flow. The access points should be designed to minimize conflicts between vehicle and pedestrian flows. Access to the parking garage should not be on the Embarcadero. The developer would consider such measures in the design phase.

In view of uncertainties about the future evolution of parking regulations and policies, and of other policies that will influence auto use and parking demand, it would be desirable to build a high degree of flexibility into the parking structure. The garage included in the proposed project could be designed to allow conversion to other uses such as commercial or office space if parking spaces were not needed. The developer would use such a design if it were found to be financially and technically feasible.

If the 150 parking spaces to be reserved for Harbor Carriers, Inc., and the Golden Gate Scenic Steamship Lines were not all needed on Fridays, the unused spaces could be assigned to vehicles attracted to the project on that peak day, thus

decreasing the maximum number of required spaces. The developer would consider such a measure, depending on negotiations with the two firms.

I. DESIGN MITIGATION MEASURES

The developer's plans would incorporate the following:

1. The solid and floating breakwaters would be designed to attenuate all waves entering the marina to a height of one foot or less.
2. The marina would be designed so that the changing water level caused by the rise and fall of the tide would not adversely affect the facilities or boats moored within the project site.
3. Stationary sources of noise such as ventilating equipment, fans, air conditioners, and other electrical equipment would meet requirements of the San Francisco Noise Ordinance.
4. Design of the project would be based on the use of salvageable material from existing piers and sheds where possible. This material would come from the site or from other piers (see page 8).
5. The lack of visual interest for pedestrians of the proposed parking structure would be mitigated by inclusion of 3,500 square feet of ground floor commercial space and service facilities for management of the development.

6. The developer plans to include planting on the garage roof, which would improve views of this structure from the surrounding hills.

7. The project has been laid out so that views of the Bay from approach streets would not be blocked.

J. INCLUSION OF PARK

The developer agrees that the Conditional Use Permit is contingent on the park's being completed within 36 months after the first opening of any commercial space. This assurance could be in the form of posting a completion bond or some other guarantee satisfactory to the Planning Commission, subject to verification of potential exclusion of long-term lease areas.

VI. ALTERNATIVES TO THE PROPOSED PROJECT

A. NO PROJECT

If the North Point Park/Marina were not built, present site uses would be retained, at least temporarily. In the absence of alternative development plans, it is unlikely that the public would have access to the waterfront at the site of the proposed project. Piers 39 and 41 and Seawall Lots 311 and 312 (Figure 3, p. 6) would remain unchanged, with the possible exception of the western half of Pier 41 in connection with improvement plans for that area by Harbor Carriers, Inc.

With this alternative, none of the impacts associated with the proposed project would be exerted on the northern waterfront area. Because there are currently no competing development plans, it would also mean that public access to this waterfront area would be delayed for some time. The primary effect of the no-project alternative would be to hold open future options for development of this area.

B. EARLIER ALTERNATIVE DEVELOPMENT SCHEMES¹

Piers 37, 39, and 41 and Seawall Lots 311 and 312 have been available for non-maritime development since late 1969. Pier 37 was vacated by Grace Lines in August 1970, Pier 39 was vacated by Marine Terminals in August 1970, and American President Lines left Pier 41 in October 1969. Seawall Lot 311 was used for rail car storage until late 1974.

Interest has been expressed over the years in developing this part of the northern waterfront. For instance, in 1968 Dillingham Corporation proposed to build a hotel at the site of Pier 37 and requested a development agreement from the Port at that time. Because Pier 37 was still in maritime use and the Port could not shift that use to another location, nothing came of this proposal.

In January 1973, after a public expression of interest, the Port Commission authorized the solicitation of bids for developing 43,000 square feet of Seawall Lot 311. Two proposals were received in May 1973. One was to build a five-story 240-room hotel with a restaurant, a bar, and meeting rooms. The other was to build a Victorian-motif office and shopping center with 110,000 square feet gross building area and parking for 200 cars. The Port Commission approved a development agreement and lease with the Victorian Village developer. The project died in

¹John Williams, Port of San Francisco, letter to Charles Pilcher, EIP Corporation, October 31, 1975, on file at the San Francisco Department of City Planning.

March 1975, due to the increased cost of construction and the unavailability of mortgage financing.

More than 25 people have discussed with the Port's rental office the possibility of using the shed on Pier 37 for tennis. The Port felt that the use was inappropriate and the fire hazard too great, however. Pier 39 was also proposed as a tennis facility in an air-supported structure in January 1975. Here again, the use was considered inappropriate.

Flea markets have been proposed for the area over the years. The same problems have precluded that use. Parking on Piers 41 and 37 has been proposed by various organizations and individuals. The San Francisco Police Fishing League has desired a fishing and parking program on Pier 41 for many years.

A developer once approached the Port about converting all three piers to a series of boutiques, restaurants, and specialty shops, similar to a project on the Seattle waterfront. Nothing came of this project.

Crowley Maritime Interests have expressed a need for the use of Pier 41 for maritime purposes. That need is now being met on the western portion of Pier 41.

A local architectural firm developed a schematic proposal for a commercial, office, and hotel development in the project area, consisting of a 1,500- to 1,800-seat theater, a 3,500-room hotel, 1 million square feet of net leasable area, and parking. The Port indicated that the scale of the project

was inconsistent with the emerging BCDC rules and regulations and the City's Comprehensive Plan. Discussions about this potential project began in late 1974 and ended in 1975, the architectural firm having been unable to find sufficient developer interest.

In March 1975 some interest was expressed by another developer in a Pacific Basin and Far East Trade Center in the area. After discussions with the Port, he concluded that the project was not economically feasible.

Many inquiries about service station site locations on Seawall Lots 311 and 312 have been received by the Port.

Most of the interest in potential development of the project area has been in ventures of questionable financial feasibility; when developers were confronted with the reality of conversion costs (for example, stabilization of piles and decks and fire protection of existing sheds and decks), most projects did not move forward and were not encouraged by the Port staff. The Port had previously refrained from actively seeking development for the pier areas until after the BCDC Special Area Plan (1974) was developed.

Since most earlier proposals were smaller in scale than the proposed project, they would have generated less demand for energy than this project.

C. DEVELOP ACCORDING TO BCDC PLAN

The Bay Conservation and Development Commission Area Plan calls for a non-maritime waterfront park with commercial recreation use, "limited in scale and incidental to park use." Additional use would be limited to a hotel (not to exceed 400 rooms) built only in conjunction with a new passenger terminal on Pier 35.

Uses proposed in the North Point Park/Marina project would be allowed under the Special Area Plan except the small boat marina. Exclusion of the marina would reduce the traffic generation and parking demand exerted by the project. The applicant has included the marina in the project plans in the belief that its presence would promote the maritime/waterfront character of the area and that the increased activity associated with the marina would increase the economic viability of the commercial aspects of the project.

As specified in the Special Area Plan, a hotel could be built only in connection with a new maritime passenger terminal. In the spring of 1975, the Port sought to interest private developers in refurbishing Pier 35. At the present time it appears unlikely that this will be done. Since a hotel would be smaller in scale than the North Point Park/Marina, it would exert a reduced impact on transportation facilities and public services. It would have an impact similar to the proposed project on opening the waterfront to the public by retaining one pier and removing the other two.

The Special Area Plan calls for predominantly public open space use of the project site, with limited commercial use. This is the only area between Piers 9 and 41 currently designated for such use.

Although the proposed project is primarily commercial, public access to the waterfront would be provided along its entire length by walkways along the breakwater and the periphery of the commercial structure (Pier 39), and in the waterfront park. The character of the open areas provided by the project, however, would differ from that of a primarily open space development. The intensity of use of the public areas with the project would be greater than with a predominantly open space use. The views over the Bay would also be different, since the project would include a marina.

Predominantly open space development would generate less traffic and parking demand than the project. The lower intensity of such a use would create correspondingly fewer secondary impacts in terms of air and water quality, noise, and public service needs, and would result in lower energy requirements.

Development of the project site for predominantly open space use, however, would not be financially possible unless it were undertaken or subsidized by the City or other funding sources. As indicated in the preceding section,

earlier efforts to develop the site were stalled due to lack of financing.

D. DEVELOP ACCORDING TO THE CITY'S NORTHERN WATERFRONT PLAN

Development according to the Northern Waterfront Plan would entail commercial development on the seawall lots and Pier 37 (destroyed), with Piers 39 and 41 in maritime uses. The City is currently revising this plan.

E. DEVELOP ENTIRE SITE AS PUBLIC OPEN SPACE¹

According to this alternative, as proposed by Richard Gryziec, San Francisco architect and planner, Piers 37 and 41 would be removed and Pier 39 could be removed and retained as a fishing pier. A public esplanade along the bulkhead would extend from Pier 39 to the Balclutha. The Eagle Cafe would be retained, and Seawall Lot 311 would contain a public playfield similar in function to Funston Field in the Marina. This alternative would be entirely consistent with BCDC Special Area Plan No. 1 and would be one means of implementing the Special Area Plan at this location.

The philosophy behind this plan is that the waterfront shoreline should be allocated to maritime, open space, and recreational uses; that the northeastern section of the city lacks a large turfed area, suitable for such games as baseball,

¹Richard Gryziec, Architect/Planner. Letter to San Francisco Department of City Planning. May 25, 1976.

and adequate tennis court space; that the northern waterfront area is already overburdened with problems caused by the kinds of uses proposed in the North Point Park/Marina; and that any new uses added to the area should differ from the prevailing uses and should not contribute to existing problems.

It is proposed that no more of such uses as shops, restaurants, hotels, offices, parking lots, and garages, whose existing development has caused vehicle-related problems in the area, should be added within the northern waterfront area. Instead, planning emphasis for the area should seek maritime and recreation uses along the shoreline, residential uses inland, restriction of visitor and employee parking from neighborhood streets, and lowering of parking rates for existing facilities.

The esplanade could be funded by the State Open Space and Recreation Fund, the State Department of Fish and Game (for the possible fishing area), and Port income from commercial tenants of nearby seawall lots.

The playfield could be funded by the State Open Space and Recreation Fund, the new State Urban Parks Fund, and San Francisco Proposition J funds.

If a public marina were installed, the funds could come from the State Department of Navigation and Ocean Development; however, Mr. Gryziec suggests that this is an inappropriate site for a marina.

The commercial waterfront activities excluded from the northern waterfront area could be accommodated along the waterfront in the area of the Ferry Building.

Development of the project site solely for public open space would generate less vehicular traffic and parking demand in the area than the proposed project, but would have a greater impact than the no-project alternative. Some additional parking could be needed for park use. The size of the waterfront park under this alternative would, of course, be larger than that proposed for the project. In the absence of extensive commercial activity, the intensity of use would be less than for the project park. The extent of impacts on the natural environment would be less than that of the proposed project. Energy requirements would also be less.

Within the northern waterfront area there would be a potential revenue loss to the Port; additionally, public funds would be required for the development of the esplanade or North Point Park. Proposition J funds could be used for the acquisition and development of parks. Additional funding from alternative sources (i.e., Federal) could be required, since the City Department of Recreation and Parks may not have the funds in the near future to build or maintain North Point Park. Recent increases in the number of properties under the jurisdiction of the Department of Recreation and Parks, and personnel cutbacks, have

placed a strain on its ability to maintain its present holding adequately.¹

If the Embarcadero Gardens project or a similar project were developed, it could potentially balance the loss of funds associated with this alternative. The development of an Embarcadero Gardens and revenues to be derived from it are conjectural at this point and must be compared to the reality of the proposed project.

It should be noted that the North Point area was never considered by the BCDC to be an area of potential revenue for the Port, with the exception of the adjacent seawall lots and the possibility of a hotel in connection with a modernized passenger terminal.

F. PHASED CONSTRUCTION

Original plans were for the proposed project to be constructed in two phases:

Phase 1: 100,000 square feet of commercial recreation development, one breakwater and partial marina construction, a minor portion of the park, and parking on Pier 39.

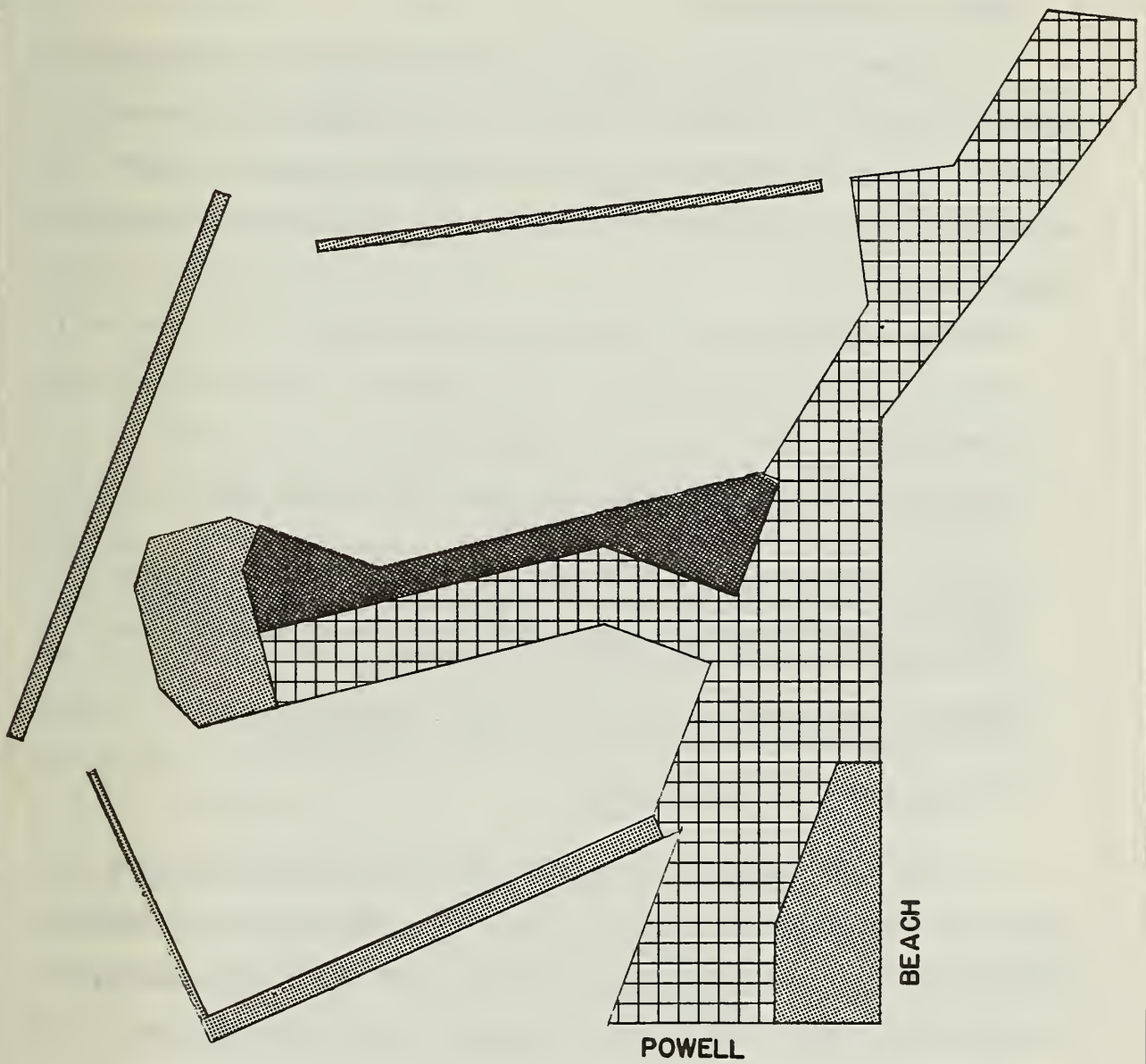
Phase 2: Completion of commercial recreation area, construction of all breakwaters and full marina, expansion of park to its full size, and construction of the parking garage.

Many concerned groups believed that construction could be halted with Phase 1 and no further development would take

¹ Loris di Grazia, Chairman, San Francisco Recreation and Parks Commission, telephone conversation October 11, 1975.

place, and the phasing concept was dropped from the developer's plans.

It is planned to build the entire project in one phase. Any possible phasing would be contingent on how quickly the commercial areas could be leased. A possible construction schedule is attached as Figure 30, page 143b. Phase I would include the commercial space at the end of Pier 39, the breakwaters and marinas, and the garage (see also Response No. 35). Phase II would be the park and the commercial recreation space on the west side of Pier 39; and Phase III would be the commercial area on the east side of Pier 39.



CONSTRUCTION SCHEDULE



PHASE I



PHASE II



PHASE III

FIGURE 30

G. DESIGN ALTERNATIVES

Project design is based on the criteria of the various agencies having jurisdiction--the Port, the Department of City Planning, BCDC--together with the developer's input on the extent and kind of commercial activities. The most important design criteria are:

- Provide maximum public spaces and amenities.
- Provide 100 percent access to the water.
- Provide North Point Park for public use.
- Provide a development that relates in scale to the residential grid of San Francisco.
- Create an environment allowing the development of entertainment recreational facilities related to water uses such as sport fishing, small boat use, pier fishing, and open space viewing of marine activities.
- Relate the design to the sun, wind, and weather conditions found along the northern waterfront.
- Maintain the view corridors.

The architectural firm of Walker and Moody studied a number of alternative plans for the site. The first considered included a hotel on Seawall Lot 311 together with the removal of Pier 39 and the rebuilding of Piers 41 and 37 to form a small boat harbor, with commercial development and surface parking on Piers 41 and 37. North Point Park would be built extending from Pier 37 to the west side of Pier 41.

This plan would probably create similar, if not greater, magnitudes and types of impacts as those identified for the

proposed project. A combination of hotel and commercial space could create a higher intensity of use on the site, resulting in higher energy consumption. Traffic generated along the Embarcadero would be greater than for the proposed project with parking on Piers 41 and 37. Expenditure of energy and materials during construction would be greater than the proposed project since an existing pier would be demolished and a pier that had been destroyed by fire rebuilt.

This plan was studied by the design team together with the staffs of the various agencies and interested citizen's groups. It was decided to avoid parking on the piers and to reuse Pier 39, since its physical condition is superior to that of the others. The marketability of the hotel was also questioned owing to the recent development of several hotels in the Fisherman's Wharf area.

A second plan was developed and studied as before. This plan utilized Pier 39 for commercial uses, with parking provided for marina users. Pier 41 was to be developed for commercial use, with access limited to drop-off vehicular traffic. A parking garage was proposed on Seawall Lot 311 in place of the hotel. This plan met more of the desires of those involved but proved to be unfeasible because of access problems. The commercial uses, which were at the end of Pier 39, were a considerable distance from the points of access and parking.

This plan differs from the proposed project only in the use of Pier 41 for commercial activity. If the total area of commercial space were the same as the proposed project, environmental impacts from this alternative would be similar.

The original project design included a 250-foot observation tower at the intersection of Pier 39 and the Embarcadero. Because it would have exceeded the 40-foot height limit and interfered with views of the Bay, the tower was dropped from project plans.

The microclimate study (Appendix C) of the proposed project included the observation tower; however, its elimination would not change the overall wind pattern, since its effect would not be statistically significant.

H. PARKING STRUCTURE ALTERNATIVES

1. Reduction in Garage Size

Reduction in the number of parking spaces provided while maintaining the same area of commercial space could intensify the on-street parking shortage in the area and increase traffic due to longer periods needed to find a space. As indicated under transportation impacts, parking needs generated by the project are expected to range from 750 to 1,180 at peak demand.

Of the 1,000 spaces planned for the garage, 150 are allocated for use by other concerns, leaving 850 for the development. Reducing the garage size by 100 spaces would provide enough spaces if the low end of project demand is accurate. Higher levels of demand would result in shortages in parking during peak periods.

The developer has indicated that if the size of the garage is reduced below 1,000 cars, the 200,000 square feet of commercial recreation area would have to be reduced. Partial public funding of the park might become necessary to make up development and maintenance costs.

Full development of the commercial recreation elements of the proposed project depends on inclusion of a parking garage containing a thousand or more spaces, since the developer would be unable to attract commercial tenants without such a facility. If the garage capacity were substantially reduced, commercial recreational square footage would be reduced accordingly; since these activities support the financing of the breakwaters and marina, the latter would then be too expensive for private development and the developer would have to seek public financing assistance.

This alternative would result in lower air pollution and energy consumption impacts than the proposed project. Reduction in available parking would provide an incentive for use of public transit for access to the proposed project.

2. Elimination of Parking Garage

Because the developer would be unable to attract commercial tenants to the commercial recreation area as proposed unless he could promise a parking garage (see H.1, above), elimination of the garage would necessitate his scaling down the project to about 45,000 square feet of commercial recreation area and installing public parking on Pier 39 (contrary to present BCDC policy). Again, the cost of the breakwaters and marina could not be absorbed with limited commercial development, and these features would be eliminated unless public financing were available.

Since the commercial recreation area is expected to support the cost of the five-acre public park, elimination of the garage would make it impossible for private financing of construction and maintenance of the park.

The Port's minimum rent would decrease from \$370,000 to \$147,000 per year.

This alternative would also entail less air pollution and energy consumption and would encourage the use of public transit to the proposed project.

The developer and the major prospective tenants of the project are unwilling to consider provision of a shuttle bus to other garages where the hours and charges could be changed at the discretion of the garage owner. Both are

reluctant to invest the substantial sum of money required for this project unless the parking is directly controlled by the developer.

3. Design of Garage for Conversions to Other Uses

This alternative would involve the designing of the parking structure such that it could be converted to other uses if a large number of spaces or the entire garage were no longer needed. This would provide flexibility in meeting future needs.

The design of the parking structure has not yet been determined. As indicated under mitigation measures, the developer would consider applying such a design to the garage if it were found to be financially feasible. On the street level, the developer is planning to provide 3,500 square feet of commercial space and office and service facilities for management of the development.

Multi-potential building design would increase the probability of long-term use of the building. If energy conservation and air-pollution reduction efforts should decrease societal dependence on individually-owned vehicles and the demand for parking facilities should decrease, the building could be converted to commercial uses with a lower energy and materials input than would be required for demolition and construction of a new building for non-parking occupancy.

4. Construction of a Smaller Garage That Can Be Expanded

The total number of spaces in any proposed alternative would be reduced by the 150 stalls committed to Harbor Carriers. Such a garage could either cover the entire garage site, with provisions for future expansion upward, or cover a portion of the lot, with future lateral expansion. In either case, costs per square foot would be greater than that for the garage as proposed.

The developer has stated that if the 1,000-stall garage could not be constructed in one phase as planned, he would be unable to attract tenants to the commercial area and would therefore be unable to proceed with the project. See also p. 147.

The advantage of this alternative would be the opportunity to evaluate the parking demand and adequacy of transit alternatives prior to construction of the entire garage. Observation of parking demand and transit usage would permit greater flexibility in future transit planning, and, should the additional parking prove unnecessary, project costs would be reduced.

VII. RELATIONSHIP BETWEEN SHORT-TERM USES OF THE
ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Productivity of the project area can be measured in two ways: 1) its economic productivity as determined by its financial return to the Port and the degree to which it increases the expenditure of tourist dollars in San Francisco; 2) its recreational/aesthetic productivity as determined by the degree to which the area serves as an asset for the recreational activity and aesthetic enjoyment of San Franciscans and visitors.

The North Point Park/Marina could promote an increase in productivity in the above areas over existing uses through the variety of uses it contains.

The project would be a long-term use, since a 60-year lease would cover the activities of several generations. Future options would be foreclosed during this period, since the use mixture determined now would probably be retained throughout the life of the project unless imbalances in the financial position of the development emerge.

VIII. ANY IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD
ENSUE FROM IMPLEMENTATION OF THE PROPOSED PROJECT

While the changes in land use and visual character of the area and other associated alterations are long-term, they are reversible. The irreversible environmental changes that would take place are the commitment of non-recyclable (by present technology) material resources used for the construction of the buildings and the energy consumed during the construction phase and throughout the life of the project.

IX. GROWTH-INDUCING IMPACTS

The North Point Park/Marina could induce growth in the economy by generating new employment, increasing consumer expenditures and the amount of money imported to San Francisco, and creating added public revenues from ease income and tax receipts. The expenditures resulting from construction and permanent employment would create new secondary employment within the local economy. As new income is spent and re-spent within the regional economy, a multiplier effect takes place in which the actual amount of income generated in the economy is greater than the initial income accruing to the region. Such a multiplier effect would stimulate growth in other sectors of the local economy. Because the development would cater to a large number of tourists, it would be a source of growth for San Francisco by bringing money into the local economy.

Although the project could have a potential long-term growth effect on sales volumes of existing facilities in the northern waterfront area, it would be expected to retard the growth of similar uses temporarily until all the restaurant and retail space could be absorbed.

The construction of a marina would probably induce growth in boat-oriented businesses.

X. EIR AUTHORS AND PERSONS CONSULTED

A. PROPOSED PROJECT AND EIR

Author of Environmental Impact Report

San Francisco Department of City Planning
100 Larkin Street

San Francisco, California 94102

Coordinator: Wil Hardee (415) 558-3056

Environmental Review Officer: Dr. Selina Bendix (415) 558-3056

Waterfront Planning Staff: Robert Meyers (415) 391-8000

Author of Preliminary Draft Environmental Impact Report

Environmental Impact Planning Corporation (415) 626-9034

319 Eleventh Street

San Francisco, California 94103

Attention: Nancy Tellefsen

With: Dames and Moore, Inc., San Francisco, California

Alan M. Voorhees & Associates, Inc., Berkeley, California
(415) 843-9746

Project Sponsor

Warren L. Simmons

Tia Maria

2101 Third Street

San Francisco, California 94107

(415) 621-6466

Project Architect

Walker and Moody, AIA

2666 Hyde Street

San Francisco, California 94109

(415) 885-0800

Attention: Bruce Moody

Project Consulting Engineers

Dames and Moore

500 Sansome Street

San Francisco, California 94111

(415) 433-0700

Attention: Morgan Noble, C7874

Jon T. Moore, C25673

Project Mechanical Engineer

Dick H. Fujioka, M11851
552 Mission Street
San Francisco, California 94105
(415) 495-8090

Project Electrical Engineer

Mazzetti and Parish
594 Howard Street
San Francisco, California 94105
(415) 362-3724
Attention: William Mazzetti, E5281

B. CITY AND COUNTY OF SAN FRANCISCO

Mayor's Office

Economic Development
1390 Market Street, No. 906
San Francisco, California 94102
(415) 558-5626
Attention: Barbara Amato

Assessor's Office

City Hall
San Francisco, California 94102
Attention: Gunnar Engdahl (415) 558-5151
Donald Lyon and Frank Green (415) 558-4151
Mr. Johnson and Mr. Murphy (415) 558-3931

Tax Collector's Office

Business Tax Division
City Hall
San Francisco, California 94102
(415) 558-2521

Department of Public Works

Division of Sanitary Engineering
770 Golden Gate Avenue
San Francisco, California 94102
(415) 558-2131

Attention: Geoffrey Power, Associate Civil Engineer, C22078
Donald Birrer, Sanitary Engineer, C15477

Traffic Engineer

460 McAllister Street
San Francisco, California 94102
(415) 558-3371
Attention: Scott Shoaf, Associate Traffic Engineer, C 17656

Water Department

Operations and Maintenance Division

425 Mason Street

San Francisco, California 94102

(415) 558-4986

Attention: Kenneth R. Boyd, Assistant General Manager, C16682

Police Department

Planning & Research Bureau

Hall of Justice

850 Bryant Street

San Francisco, California 94103

(415) 553-1101

Attention: Lieutenant Michael F. Lennon
Officer Robert Bernardini

Fire Department

260 Golden Gate Avenue

San Francisco, California 94102

(415) 861-8000

Attention: Chiefs René A. Gautier and Robert Rose, Division
of Planning and Research
Lieutenant Dixon, Bureau of Fire Prevention

Recreation and Parks Commission

McLaren Lodge

Fell and Stanyan Streets

San Francisco, California 94117

(415) 558-3706

Attention: Loris di Grazia, Chairman

Recreation and Parks Department

San Francisco Marina Yacht Harbor-Gas House Cove

San Francisco, California

(415) 558-3706 ext 4603

Attention: Shirley Delrimple

Port of San Francisco

Ferry Building

San Francisco, California 94111

(415) 391-8000

Attention: John Williams, Property Development Consultant
Charles Vickers, Chief Engineer, C8788
D. Gibson, Engineer
D. Edwards, Engineer
Lieutenant James Calden, Fire Marshal
Anthony Bobier, Legal Counsel
James Read, Engineer

San Francisco Maritime Museum

Foot of Polk Street

San Francisco, California 94109

(415) 673-0700

Attention: Harlan Soeten, Curator

C. STATE OF CALIFORNIA

California Board of Equalization
350 McAllister Street
San Francisco, California 94102
(415) 557-1877

San Francisco Bay Conservation and Development Commission
30 Van Ness Avenue
San Francisco, California 94102
(415) 557-3686
Attention: Ruth Koch
 Kent Watson

D. UNITED STATES GOVERNMENT

U.S. Army Corps of Engineers
211 Main Street
San Francisco, California 94105
Attention: Kenneth Schakel, Regulatory Functions (415) 556-5178
 Richard Poole, Environmental Review (415) 556-0325
 Go Shieh, Navigation, Shoreline, and
 Estuarine Planning (415) 556-5370

U.S. Coast Guard
630 Sansome Street
San Francisco, California 94111
(415) 556-1380
Attention: Marine Environmental Protection Branch

U.S. Department of Commerce
450 Golden Gate Avenue
San Francisco, California 94102
(415) 556-5860

U.S. Department of Labor
Bureau of Labor Statistics
450 Golden Gate Avenue
San Francisco, California 94102
(415) 556-4678

E. OTHER

San Francisco Tomorrow
9 First Street
Room 826
San Francisco, California 94105
(415) 566-7050
Attention: Gerald Cauthen; Richard Gryziec; Jack Morrison

Pacific Gas and Electric Company

245 Market Street

San Francisco, California 94105

Attention: Gilbert Houston

(415) 781-3232 ext 3739

Robert McKillican

(415) 781-4211 ext 2368

Jerry O'Connell

(415) 781-4211 ext 3211

Golden Gate Disposal Company

900 7th Street

San Francisco, California 94107

(415) 626-4000

Attention: John Moscone, President

Committee for the Improvement and Preservation
of Sports Fishing in San Francisco

Bass Tub II, Foot of Jefferson and Jones

San Francisco, California

(415) 771-2744 (415) 456-9055

Attention: Clifford Anfinson, President

Alessandro Baccari & Associates

319 Pacific Avenue

San Francisco, California 94111

(415) 391-2870

Attention: Alessandro Baccari, Chairman, Mayor's Citizens
Committee for the Preservation and
Beautification of Fisherman's Wharf Area

Blue Shield Offices

2 North Point Street

San Francisco, California 94133

(415) 445-5000

Francisco Bay Office Park

50 Francisco Street

San Francisco, California 94133

(415) 956-6555

Arthur D. Little, Inc.

1 Maritime Plaza

San Francisco, California 94111

(415) 981-2500

Attention: Dr. Reuven Hendler, Principal Economic Analyst
John Sanger, Principal Urban Planning Analyst

Dining Room Employees Local 9

1040 Geary

San Francisco, California 94109

(415) 673-6713

Attention: Anthony Anselmo, Administrative Assistant

Telegraph Landing

150 Lombard

San Francisco, California 94111

(415) 788-4488

The Ramp

855 China Basin

San Francisco, California 94107

(415) 621-2378

Jack London Marina

87 Jack London Square

Oakland, California 94607

(415) 834-1800

Oakland Marina

1311 Embarcadero

Oakland, California 94606

(415) 533-0107

Embarcadero Cove

Oakland, California 94606

(415) 536-6760

Attention: Don Durant

Alameda Yacht Harbor

1535 Buena Vista

Alameda, California 94501

(415) 522-9080

San Francisco Belt Railway

1510 Sansome Street

San Francisco, California 94111

(415) 956-3874

Attention: Rick Cecile

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Engineer

Air Resources Board
Evaluation and Planning
1709 - 11th Street
Sacramento, CA 95814
Attn: William Lockett

State Attorney General's
Office
6000 State Building
350 McAllister Street
San Francisco, CA 94102
Attn: Louise Renne

History Preservation Section
Department of Parks and
Recreation Resources Agency
P.O. Box 2390
Sacramento, CA 95811

Department of Fish and Game
State Headquarters
1416 Ninth Street
Sacramento, CA 95814

Department of Public Health
2151 Berkeley Way
Berkeley, CA 94704
Attn: Arnold Greenberg, Chief,
Bio-Environmental Lab-
oratory

California Department of Navi-
gation and Ocean Development
1416 Ninth Street, Room 1336
Sacramento, CA 95814

REGIONAL

Regional Water Quality Control
Board (3 copies)
San Francisco Region
1111 Jackson Street, Room 6040
Oakland, CA 94607
Attn: Donald Dalke

REGIONAL (continued)

Bay Area Air Pollution Control
District
939 Ellis Street
San Francisco, CA 94109
Attn: Ralph Meade

Association of Bay Area
Governments
Hotel Claremont
Berkeley, CA 94705
Attn: Vivian Brown

San Francisco Bay Conservation
and Development Commission
(2 copies)
30 Van Ness Avenue
San Francisco, CA 94102
Attn: Kent Watson

SAN FRANCISCO

Port of San Francisco (2 copies)
Ferry Building
San Francisco, CA 94111
Attn: James Read

Human Rights Commission
1095 Market Street, Room 501
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Construction and Other Projects
(CULCOP)
c/o GES - Utility Liaison
City Hall, Room 363
San Francisco, CA 94102
Attn: Herman Beneke

San Francisco Recreation and
Parks Commission
McLaren Lodge
Fell and Stanyan Streets
San Francisco, CA 94117
Attn: Loris di Grazia,
Chairman

San Francisco Recreation and
Parks Department
San Francisco Marina Yacht
Harbor-Gas House Cove
San Francisco, CA 94123
Attn: Shirley Delrimple

Public Utilities Commission
949 Presidio Avenue
San Francisco, CA 94115
Attn: James J. Finn,
Director of Trans-
portation

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San Francisco Examiner
110 Fifth Street
San Francisco, CA 94103
Attn: Don Cantor

Oakland Tribune
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Oakland, CA 94612
Attn: Fred Garretson

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San Francisco Tomorrow
728 Montgomery Street
San Francisco, CA 94111
Attn: Susan Smith

Sierra Club
San Francisco Bay Chapter
5608 College Avenue
Oakland, CA 94618

Friends of the Earth
529 Commerical Street
San Francisco, CA 94111
Attn: Connie Parrish

Oceanic Society
San Francisco Bay Chapter
Fort Mason, Building 240
San Francisco, CA 94123
Attn: Dr. Michael Herz

Northern California Committee
for Environmental Information
P.O. Box 761
Berkeley, CA 94701
Attn: Dr. Donald Dahlsten

Regional Parks Association
6415 Regent Street
Oakland, CA 94612
Attn: Alice Howard

San Francisco Beautiful
840 Urbano Drive
San Francisco, CA 94127
Attn: Henry Heyl

ORGANIZATIONS (continued)

Dining Room Employees Local 9
1040 Geary
San Francisco, CA 94109
Attn: Anthony Anselmo

San Francisco Maritime Museum
Foot of Polk Street
San Francisco, CA 94109
Attn: Harlan Soeten, Curator

San Francisco Ecology Center
13 Columbus Avenue
San Francisco, CA 94111

San Francisco Junior Chamber
of Commerce
24 California Street
San Francisco, CA 94111

Greater San Francisco Chamber
of Commerce
465 California Street
San Francisco, CA 94111

Marina Civic Improvement and
Property Owners Association,
Inc.
132 Cervantes Boulevard
San Francisco, CA 94123
Attn: Mary Skance

San Francisco Planning and
Urban Renewal (SPUR)
939 Ellis Street
San Francisco, CA 94109
Attn: Redmond Kernan

Citizens Waterfront Committee
One Maritime Plaza
San Francisco, CA 94111
Attn: Richard Goldman

Property Owners Association
of North Beach
550 Columbus Avenue
San Francisco, CA 94133
Attn: John P. Figone, Jr.

Marina Homeowners Protective
Association
3731 Divisadero Street
San Francisco, CA 94123
Attn: John Battaglia

Marina Merchants Association
2141 Lombard Street
San Francisco, CA 94123
Attn: Gary Sun

North Beach Merchants and
Boosters Association
Bank of America
1453 Stockton Street
San Francisco, CA 94133
Attn: Candy King

The Telegraph Hill Survival
Association
350 Green Street
San Francisco, CA 94133
Attn: Gene Morzenti

Northern Waterfront Improve-
ment Association
c/o Ghirardelli Crafts Gallery
900 North Point
San Francisco, CA 94109
Attn: Ron Perry, President

The Telegraph Hill Dwellers
386 Chestnut Street
San Francisco, CA 94133
Attn: Robert M. Tibbits

Telegraph Hill Neighborhood
Association
660 Lombard Street
San Francisco, CA 94133
Attn: Peter Gibb

ORGANIZATIONS (continued)

Committee for the Improvement
and Preservation of Sports
Fishing in San Francisco
Bass Tub II, Foot of Jerrerson
and Jones
San Francisco, CA 94133
Attn: Clifford Anfinson

Mayor's Citizens Committee for
the Preservation and Beautifi-
cation of Fisherman's Wharf Area
319 Pacific Avenue
San Francisco, CA 94111
Attn: Alessandro Baccari

Women in Construction
c/o Prim Investments
650 California Street, Suite 2900
San Francisco, CA 94108

San Francisco Convention and
Visitors Bureau
Fox Plaza, Suite 260
San Francisco, CA 94102

Sunset Heights Improvement Club
1128 Irving Street
San Francisco, CA 94122

West of Twin Peaks Central
Council
P.O. Box 27112
San Francisco, CA 94127

Downtown Association
582 Market Street
San Francisco, CA. 94104

Russian Hill Affiliates
1039 Broadway
San Francisco, CA 94133

Planning Association for the
Richmond
1327 Cabrillo
San Francisco, CA 94118

Bay Area Womens Coalition
944 Market Street
San Francisco, CA 94102

Mt. Davidson Manor Homes
Association
830 Darien Way
San Francisco, CA 94127

Junior World Trade Associ-
ation
465 California Street
San Francisco, CA 94104

BUSINESSES

Pacific Gas and Electric
Company
Land Department
77 Beale Street
San Francisco, CA 94105
Attn: Melvin Youngblood

The Ramp
855 China Basin
San Francisco, CA 94107

Telegraph Landing
150 Lombard
San Francisco, CA 94111

Blue Shield Offices
2 North Point Street
San Francisco, CA 94133

Francisco Bay Office Park
50 Francisco Street
San Francisco, CA 94133

Arthur D. Little, Inc.
1 Maritime Plaza
San Francisco, CA 94111
Attn: Dr. Reuven Hendler

Fibreboard Corporation
55 Francisco Street
San Francisco, CA 94133

INDIVIDUALS

Richard Gryziec (2 copies)
2670 Leavenworth Street
San Francisco, CA 94133

Dr. Joel W. Hedgpeth
5660 Montecito Avenue
Santa Rosa, CA 95404

Jack Oppenheimer
2275 Beach Street
San Francisco, CA 94123

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XIII. COMMENTS AND RESPONSES

A. COMMENTS RECEIVED FROM THE DIRECTOR OF CITY PLANNING AND MEMBERS OF THE CITY PLANNING COMMISSION AT THE PUBLIC HEARING JULY 29, 1976

Director of City Planning Rai Okamoto; Commissioners Gordon Lau, Susan Bierman, Ina Dearman, Thomas Mellon, Toby Rosenblatt, and Charles Starbuck.

Comment 1, Commissioner Rosenblatt: Where in the project is the park?

Response 1: South of the Embarcadero the park would occupy Seawall Lot 312. North of the Embarcadero it would run along the waterfront out to the bulkhead from Pier 41 east to the eastern edge of Pier 37; it would not include the perimeter of Pier 39.

Comment 2, Commissioner Rosenblatt/Commissioner Bierman: What would be required for the alternative sizes of the park?

Response 2: A four-lane Embarcadero would allow a 4.5-acre park, not including the Pier 41 breakwater. Three lanes: 5-acre park. Two lanes: 5.5-acre park. Closed Embarcadero: 6.5-acre park. Figure 4a, added to the EIR as page 8a, illustrates the above.

A 2-lane Embarcadero would result in a park in all the area outside the closely cross-hatched section.

A 3-lane Embarcadero would result in a park in the area above plus the closely-hatched section.

A 4-lane Embarcadero would result in a park encompassing only the most widely hatched section.

A closed Embarcadero would result in a park covering the entire hatched area, including all inside hatching.

Comment 3, Commissioner Rosenblatt: What actions on the Embarcadero are involved in providing for the 4.5-acre park? What actions would be carried out by the City and/or the Port?

Response 3: Some existing railroad track would be removed and replaced with roadway. This is Port-owned property and the Port Commission would decide who would bear the cost of relocation.

Comment 4, Commissioner Dearman: What provisions are being made for public transportation along this area, and what is the opinion at Fisherman's Wharf about this plan?

Response 4: The Northern Waterfront Planning staff is currently studying alternative acreages for the proposed park, their effects on transit and the roadway, and what transit service along the project area and into Fisherman's Wharf can be provided. This work is being done in conjunction with the staffs of the Municipal Railway and the Traffic Engineering Division of the Department of Public Works. The present track area is being considered for transit in the event that the Embarcadero roadway is moved.

Proposed amendments to the Northern Waterfront element of the Comprehensive Plan, which are being developed by the Waterfront planners in the Department of City Planning have been endorsed by the Planning Advisory Committee, and informally endorsed by the president and vice president of the Fisherman's Wharf Merchants' Association. They will be presented in September to the Association's board of directors and to a general meeting of Fisherman's Wharf merchants.

Comment 5, Director Okamoto: Would the 60-foot distance between the curb and the bulkhead be the only open space available?

Response 5: Yes, this distance would be the only open space available.

Comment 6, Commissioner Rosenblatt: How many additional vehicles and transit riders would be generated by the project, assuming no change in transit services?

Response 6: Draft EIR, Vol. 1, p. 104, add under Table 9:

"Since there is some reserve capacity on transit now serving the project area, an unimproved transit system may cause no problem. Under worst-case conditions, however, it is estimated that, with no change in transit, 5 to 10 percent more vehicles would enter the area on Friday (assumed as the peak day) than would enter with slightly improved transit service; this could increase the 4,600 vehicles to about 5,100. The added 460 vehicles would carry about 1,380 people who would be diverted from using the unimproved transit system.

"A Planning and Operations Study being conducted for the Municipal Railway includes consideration of a loop line from

the Southern Pacific Railroad station to Fisherman's Wharf, returning via Van Ness Avenue or Polk Street. In addition, it was recently announced that public funds originally earmarked for construction of the proposed Embarcadero Freeway may be available to the City and could possibly be used for roadway and transit improvements along the Embarcadero corridor."

Comment 7, Commissioner Dearman: What would transit improvements cost?

Response 7: (See Draft EIR, Vol. 1, p. 104, Table 9).

A. Moderate transit improvement would involve one to three additional buses along the Embarcadero between the Ferry building and Aquatic Park. At \$60,000 per year per bus, less revenue of \$20,000 per bus, the potential net cost would be \$40,000 to \$120,000.

B. Significant transit improvement could include extension of the Mason/Taylor cable car line to the waterfront and improved bus or new rail service between Van Ness Avenue and the Embarcadero BART station. Capital costs for the former are estimated at \$2 million. A rail line between Crissy Field and the Ferry Building would cost \$12 million. Operating costs cannot be estimated at this time.

Comment 8, Commissioner Starbuck: What is the approximate cost of the relocation of the two Embarcadero lanes and the railroad?

Response 8: According to the Northern Waterfront Planning staff, assuming a 3- or 4-lane Embarcadero, some curbing would have to be removed and replaced at a cost of \$21,000 to \$22,000. If the Embarcadero were removed between Kearny and Powell, and four lanes built about 40 feet south, the cost of replacing the lanes would be about \$390,000 to \$430,000. According to Donald Birrer, Engineer with the Department of Public Works, relocation of surface utilities would cost an estimated \$100,000 to \$200,000.

See also Response No. 3.

Comment 9, Commissioner Rosenblatt: What design characteristics would avoid congestion between the people mover and pedestrians?

Response 9: Use of a smooth pedestrian walkway and rough cobblestones on the people-mover lane, and/or striping along the people-mover lane, could reduce congestion.

Comment 10, Commissioner Rosenblatt: Is there current information on the final location of the Eagle Cafe, Crow's Nest, and Sea Habitat?

Response 10: The developer has asked the Eagle Cafe and the Crow's Nest to relocate within the project. The Sea Habitat's lease has two and a half years to run; no negotiations have been entered into with this establishment. Although the Crow's Nest is currently being rented on a 30-day license, the owners have the right to obtain a lease that, if it took effect, would expire in about seven years.

Comment 11, Commissioner Rosenblatt: Is it contemplated that the project would berth historic ships, specifically the Recoverer and the Pampanito?

Response 11: On July 28, the Port Commission refused a proposal to berth the Pampanito; moreover, the developer has not entered into any negotiations with the Maritime Museum for berthing it within the project. The original development agreement with the Port called for the developer to provide berthing space for the Recoverer at Pier 37. The pier has been destroyed and the developer has no commitment to berth this ship.

The developer does not contemplate providing space for any vessels but the sport-fishing and private pleasure boats in the marina.

Comment 12, Commissioner Bierman: The EIR should include a sketch of the parking garage as seen from the hills to the south.

Response 12: This sketch has been added as Figure 10a, page 15a.

Comment 13, Commissioner Bierman: The EIR should include the alternative of a smaller garage with possible later expansion to accommodate 1,000 cars if needed.

Response 13: Draft EIR, Vol. 1, page 149, Parking Structure Alternatives, add:

"4. Construction of a Smaller Garage That Can Be Expanded

"The total number of spaces in any proposed alternative would be reduced by the 150 stalls committed to Harbor Carriers. Such a garage could either cover the entire garage site, with provisions for future expansion upward, or cover a portion of the lot, with future lateral expansion. In either case, costs per square foot would be greater than that for the garage as proposed.

The developer has stated that if the 1,000-stall garage could not be constructed in one phase as planned, he would be unable to attract tenants to the commercial area and would therefore be unable to proceed with the project. See also Draft EIR, Vol. 1, p. 147.

"The advantage of this alternative would be the opportunity to evaluate the parking demand and adequacy of transit alternatives prior to construction of the entire garage. Observation of parking demand and transit usage would permit greater flexibility in future transit planning, and, should the additional parking prove unnecessary, project costs would be reduced."

Comment 14, Commissioner Bierman: The section on wave impact is difficult to understand.

Response 14: Draft EIR, Vol. 1, p. 79, is amended to read as follows:

"2. Oceanography
a. Waves

"As waves move eastward from the ocean into the Bay, their energy is dissipated and they become lower. At the site of the proposed project, they are a maximum of about 4½ feet high during a strong (40 mph) wind (see p. 42).

"The estimated highest tide at the project site is 8½ feet [Draft EIR, Vol. 1, p. 44]. If a high tide coincided with a high wind, wave height would be about 13 feet. The breakwaters are designed to be 14 feet high; at this location there would undoubtedly be some splashing, but wave action would diminish by the time it reached the piers themselves.

"The deep ocean swell waves hitting the (roughly) north-south Pier 41 breakwater would ordinarily splash up and bounce back with some force; however, the breakwaters are designed with holes in their west, or ocean, side to break up the force of the waves, much in the same manner that a colander under a strong stream of water dissipates the force of the stream while a solid surface such as a pie pan causes extensive splashing.

"A tsunami expected to occur once in 100 years would have a height of 6.2 feet above mean sea level at the project site.¹ Since mean sea level is 3.5 feet above mean lower low water,

¹A. W. Garcia and J. R. Houston, "Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound," U.S. Army Engineer Waterways Experiment Station, Technical Report H-75-17, November 1975.

the total height of a tsunami would be slightly under ten feet, well below the height of the piers.

"The receding waters of a tsunami can generate currents stronger than usual within the semi-enclosed Bay; however, most damage is confined to narrow channels, and tsunami-induced currents are expected to have little effect on moored boats or marina facilities at the project."

Comment 15, Commissioner Starbuck: Could the project be implemented with fewer parking spaces?

Response 15: The traffic consultant's opinion is that peak demand would require 1,000 parking spaces. See also Responses Nos. 20 and 43.

Comment 16, Commissioner Dearman: If parking meters were removed, would that mean people would have to park in the project's garage?

Response 16. Yes. The garage would have low-rate parking, up to four hours for one dollar, compared to other private parking in the project area.

Comment 17, Commissioner Bierman: What would be the cost for one hour?

Response 17: The cost for one hour would be one dollar.

Comment 18, Commissioner Bierman: How much does it cost per hour to park at a meter?

Response 18: Fifty cents per hour.

Comment 19, Commissioner Bierman: "I do not think you ought to price out people who maybe do not want to spend four hours."

Response 19: The developer has stated that he would be unable to reduce the parking garage price below \$1 per hour.

Comment 20, Commissioner Starbuck: Would you have your traffic consultant respond specifically to his dispute with Appendix J of Volume 2 of the EIR?

Response 20: 1) The discrepancy is exaggerated because of an error, Draft EIR, Vol. 1, p. 110. The traffic consultant's estimated 1,180 parking spaces include 150 for Harbor Carriers; the Department of City Planning's (DCP) 750 spaces do not. Adding the 150 spaces to DCP's figure yields 900 spaces.

2) The traffic consultant used Friday figures on the assumption that Friday is the peak use day; these are nearly a thousand spaces more than the Saturday assumption. DCP assumed summer Saturday parking needs to be 750; adding the above 150 spaces to yield 900, and using the consultant's Saturday figure of 1,090, the discrepancy is reduced to about 190 parking spaces. The statistical limits of accuracy of any traffic demand projection are such that it is unlikely that the difference of 190 is statistically significant.

3) The traffic consultant's projections were the maximum possible; DCP's projections were peak volumes that could be expected to occur more frequently than the maximum.

Comment 21, Commissioner Starbuck: What will be the guaranteed income to the Port per square foot of the project, excluding water area and including the park? Furnish a comparison of this income with an average income for similar uses on Port property.

Response 21: The guaranteed minimum income to the Port from the proposed project would be \$370,000 per year. An additional 25 percent would be paid on revenues in excess of net revenues for an established base year. (Base year = highest revenue received during the third, fourth, and fifth full calendar years following completion of construction of 60 percent of retail/commercial space. No overages would be paid before the sixth year.)

The following comparison includes minimum annual rent, percent rent where known, and area in square feet. Figures have been rounded. The yield shown is the revenue to the Port per square foot per year.

Proposed North Point Park/Marina

Minimum rent \$370,000; percent rent unknown
Commercial developable area 200,000 square feet
Yield: \$1.85 on minimum rent

Total land area excluding four-lane Embarcadero
433,000 square feet
Yield: \$0.85 on minimum rent

Port-Leased Areas

Seawall Lot 302 (tenants include sports fishing, crab boat owners, fish processing and packing, restaurant, ship chandler)

Commercial leased area 52,500 square feet
Minimum rent \$114,000
Yield: \$2.17
Minimum + percent rent \$197,000
Yield: \$3.75

Seawall Lot 303 (tenants include fish processing, smoking, and packing; restaurants, service station, marine supply)
Commercial leased area 47,400 square feet
Minimum rent \$125,000
Yield: \$2.64
Minimum + percent rent \$154,000
Yield: \$3.25

BART Ventilating Shaft and Platform
Commercial developable area 34,700 square feet
Minimum rent \$35,000; percent rent unknown
Yield: \$1.01

Total area including landscaped area 101,000 square feet
Yield: \$0.35

Restaurants on Fisherman's Wharf and other Port property
Average minimum yield: \$3.40 plus percent
High (Sinbad's) minimum yield: \$5.50 plus percent
Low (Victoria Station) minimum yield: \$2.70 plus percent

Comment 22, Commissioner Mellon: What is the present income of the Port property compared with the income expected to be generated by the proposed development?

Response 22: Present income is \$68,000; projected income from the project would be a little less than two million dollars (Draft EIR, Vol. 1, pp. 24 and 122).

Comment 23, Commissioner Rosenblatt: What agencies would be responsible for relocation and what would the costs be?

Response 23: See Response No. 8.

Comment 24, Commissioner Starbuck: Include in the EIR the number of off-street parking spaces now in private hands: parking garages that are now closed on weekends.

Response 24: There are 1,487 parking spaces within a six-block radius of the proposed project for private use that are not open to the public. About 250 of these private spaces are open during the working week and closed on weekends. No attempt has been made to approach owners of this parking about staying open on weekends.

There are 3,387 public parking spaces within this radius; prices range from free (vacant lot at Columbus and Jones) to \$1.50 per hour for the first hour (Jefferson and Beach).

Comment 25, Commissioner Dearman: How can a parking garage charging only \$1 for four hours generate \$9,000 in parking tax unless there is 24-hour parking?

Response 25: The parking stalls are expected to be occupied by three or four vehicles per day (\$4 per day per stall at 365 days equals \$1,460; \$3 per day per stall at 365 days equals \$1,095). Assuming \$1,100 per stall per year at 1,000 stalls, revenue would be \$1,100,000.

Comment 26, Director Okamoto: Phased construction was mentioned in the Draft EIR; more information on phasing is desired.

Response 26: Add the following to the Draft EIR, Vol. 1, as page 143a:

"It is planned to build the entire project is one phase. Any possible phasing would be contingent on how quickly the commercial areas could be leased. A possible construction schedule is attached as Figure 30, page 143b. Phase I would include the commercial space at the end of Pier 39, the breakwaters and marinas, and the garage (see also Response No. 35). Phase II would be the park and the commercial recreation space on the west side of Pier 39; and Phase III would be the commercial area on the east side of Pier 39."

Comment 27, Director Okamoto: Would the parking garage be built early in the construction operation, before completion of the remaining elements of the project?

Response 27: Completion of the garage is planned to coincide with the opening of the commercial space.

Comment 28, Director Okamoto: Would the park be phased as development proceeds?

Response 28: The developer plans to build the park as part of the second phase of construction, if development is phased, although present plans are for the entire project to be built in one stage. The developer plans to complete the park within 36 months after the first opening of any commercial space; he is willing to post a completion bond. See also Response No. 44.

Comment 29, Commissioner Bierman: Is the subject of fire treated adequately in the EIR?

Response 29: The Fire Department believes that the type of circumstance under which this use on the pier would be a hazard would

be a major earthquake, which would cause extensive damage throughout the city.

Any possible fire on Pier 39 cannot be compared to the devastating Pier 37 fire, which involved a heavy draft blowing through a large, open building with no sprinkler system. Pier 39 is planned to contain a number of separated structures, all of which would have to meet applicable codes as well as the requirements set forth in the Draft EIR, Vol. 1, pp. 102+. The project is planned for adequate access and maneuvering space for fire-fighting vehicles, and the Fire Department can draft water from the Bay if necessary. Restaurants are required to have systems such as automatic dry chemical systems to stop grease and electrical fires and the Fire Department anticipates no hazard caused by uses planned for the project area.

See also Draft EIR, Vol. 2, Appendix 16, 1976, which is added as Appendix E.1.

Comment 30, Commissioner Bierman: We should have a rendering of what the park would look like if the Embarcadero is left completely open.

Response 30: Figure 7a is added to the EIR as page 12a. This is a photograph of the project area as it now looks with a sketch of the proposed project overlaid.

Comment 31, Commissioner Bierman: Is the project dependent on having its own garage? Could the EIR include a discussion of a shuttle bus to other garages in the area?

Response 31: Draft EIR, Vol. 1, page 148, add to end of Subsection 2: "The developer and the major prospective tenants of the project are unwilling to consider provision of a shuttle bus to other garages where the hours and charges could be changed at the discretion of the garage owner. Both are reluctant to invest the substantial sum of money required for this project unless the parking is directly controlled by the developer." See also Responses 16 through 19.

Comment 32, Commissioner Bierman: If there is less park space, will the 1,000-car garage still be needed?

Response 32: The project sponsor says that the 1,000-car garage would be necessary for the commercial space, and would not depend on the park.

Comment 33, Commissioner Bierman: How much would it cost to remove railroad tracks and move the Embarcadero into that area?

Response 33: See Response No. 8.

Comment 34, Commissioner Starbuck: Would any garage spaces other than those required in the development agreement for Harbor Carriers be reserved for project tenants?

Response 34: No other garage spaces would be reserved.

Comment 35, Commissioner Bierman: What would be the cumulative impacts of the proposed project and the North Shore Outfalls Consolidation project, which could be built at the same time?

Response 35: The North Shore Outfalls Consolidation Project is scheduled at present to begin in mid-1977 and finish early in 1981. More definite information on construction scheduling will be available in October 1976.

Construction on North Point Street is scheduled late in this project. It will start at Columbus and proceed east to the Embarcadero. It is planned to keep one westbound lane on North Point open; alternative traffic routes are being planned.

Construction of the proposed North Point Park/Marina is planned to begin in mid-1977, assuming that all required permits are issued, and finish in mid-1981.

Construction vehicles serving both projects could use the same access streets; therefore the temporary noise and air pollution impacts of the proposed project could be added to those of the North Shore project.

Seawall Lots 311 and 312, which are designated for the North Point Park/Marina's garage and park, respectively, are also planned for storage of Municipal Railway vehicles during construction of the North Shore project; however, the developer's agreement with the Port takes priority over use by Muni, which is investigating alternative vehicle storage sites.

Because the proposed North Point Park/Marina is estimated to be completed some months after completion of the North Shore project, patrons of the parts of the North Point Park/Marina that would be completed before completion of the North Shore project could be subjected to traffic diversion occasioned by the latter. As indicated in the North Shore Outfalls Consolidation Project EIR, neighboring streets are capable of assuming additional traffic loads.

The time at which the major influx of visitors to the North Point Park/Marina would take place would be after completion of the North Shore project; therefore, overlap of congestion impacts would be brief.

Comment 36, Commissioner Starbuck: How does the phased construction described in the Draft EIR, Vol. 1, p. 143, differ from the present plan?

Response 36: See Response No. 26.

B. COMMENTS RECEIVED FROM OTHERS ATTENDING THE PUBLIC HEARING
JULY 29, 1976

Robert Katz, Telegraph Hill Dwellers
Isaac Zambrini, 1000 Green Street, San Francisco
Richard Gryziec, 741 North Point, San Francisco
Winnifred McCarthy, Apartment House Associations Consolidated
Robert Berner, Foundation for San Francisco's Architectural
Heritage
Steve Wyker, San Francisco Junior Chamber of Commerce
Hugh William Griffith
Betty Rader, Telegraph Hill Dwellers Environment Committee

Robert Katz, Telegraph Hill Dwellers

Comment 37: The Burton Act is misquoted in the EIR.

Response 37: Draft EIR, Vol. 1, p. 23, paragraph 2, is amended to read: "The Burton Act of 1968 provided for the transfer of the Port from direct State control to control by the City and County of San Francisco. Section 3 empowers the Harbor Commission, among other things, to grant leases for periods not exceeding 66 years, if the Commission determines that the transferred lands are not required for harbor improvement, commerce and industry, or various other listed uses, 'for the purposes of such development and use as the commission finds will yield maximum profits to be used by the commission in furtherance of commerce and navigation'."¹ The California Statutes of 1971 amended the above to read, "for the purposes of such development and use as the commission finds to be in the public interest, with monies therefrom to be used by the commission in the furtherance of commerce and navigation."²

Comment 38: ". . .the development agreement with the Port is insufficiently summarized."

Response 38: The provisions of the development agreement with the Port are summarized as follows:

A. The agreement is an agreement to lease 70.7 acres of property, over which the Port Commission has jurisdiction, to the developer for 60 years. The lease is to be executed on or before September 10, 1977.

¹Statutes of California 1968, Chapter 1333, p. 2546.

²Statutes of California 1971, Chapter 1253, p. 2464.

B. The developer's two-phased proposal is described briefly. The phasing requirements have since been changed; see Responses Nos. 26 and 28. The description of the proposed development in the agreement includes the land uses and quantities originally proposed by the developer to the Port Commission. The agreement states: "The....uses and quantity of each use may be varied prior to commencement of construction of the various improvements in order to secure necessary governmental appeals or to meet changed economic conditions." Changes have been made since the original development agreement, and current information is supplied in the Summary (page 1) and Section I.C., Project Characteristics, of the Draft EIR, Vol. 1.

1. 185,000 square feet of retail/commercial space within 100 feet of shoreline exclusive of the Eagle Cafe, Crow's Nest, and Sea Habitat, which are under separate agreement with the Port.
2. 60,000 square feet of retail/office/commercial space beyond 100 feet of the shoreline.
3. Nine acres of public open space and access.
4. 1,400 parking spaces, including 400 over water (since reduced to 1,000 garage spaces).
5. 3,500 square feet of office space for management and office space.
6. 80 to 120 sport fishing berths.
7. 175 to 250 pleasure boat berths.
8. Two amusement rides.

C. A list of conditions that must precede execution of the lease is then set out. They include:

1. Developer's right to cancel the agreement prior to executing the lease if governmental permits are not obtainable, or if the developer determines that the project is economically unfeasible, or if title insurance is not obtainable, or if the developer cannot obtain financing.
2. The Port may cancel the agreement and keep the developer's \$10,000 deposit if the developer defaults in his obligations.

3. Both parties agree to diligently process all permit applications necessary.

4. The developer shall not be deemed in default when delays are caused by major unforeseen events including floods, earthquakes, fires, governmental restrictions, litigation, unusually severe weather, or the acts or omissions of any public agency; and the developer shall be entitled to an extension of time for any such delays.

5. The developer is granted reasonable access to the project area during the term of the agreement.

Comment 39: The cost of the breakwater should be included.

Response 39: Under State environmental law, a developer is not required to release financial statements about a proposed project; the developer is not willing to release this information.

Comment 40: How much would the Port receive in revenue per square foot?

Response 40: See Response No. 21.

Comment 41: What would be the cost to the City of relocating rail tracks, utilities, and streets?

Response 41: See Response No. 8.

Comment 42: How many people will this development attract?

Response 42: Draft EIR, Vol. 2, p. 92, estimates about 38,000 people per day arriving by auto or transit on a summer Friday or Saturday. This would yield 910,000 total for the twelve weekends in summer (the traffic consultant assumed peak visitor numbers on those two days).

During other summer weekdays and non-summer months, assuming an average of 35 percent fewer visitors (Draft EIR, Vol. 2, p. 95), there could be 24,700 auto and transit visitors per day. At five weekdays and twelve weeks, this would yield an additional 1,480,000 visitors.

Total summer visitors:	1,480,000
	<u>910,000</u>
	2,390,000

Winter, spring, and fall (40 weeks or 280 days), using a reduced figure of 20,000 auto and transit visitors per day:

	5,600,000
Plus summer visitors:	<u>2,390,000</u>

Total (estimate)	7,990,000
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Since not all of the above would be attracted exclusively to the project (Draft EIR, Vol. 2, p. 93), this figure could be arbitrarily reduced to 5 million. Adding 15 percent bicycle riders and pedestrians (750,000), the total number of people visiting the project per year can therefore be estimated at roughly six million.

Comment 43: Although the size of the proposed project has been reduced from an earlier version, the garage has been increased from 700 to 1,000 cars. How is this discrepancy accounted for?

Response 43: While an earlier proposal may have included a 700-car garage, the project submitted in the Preliminary Draft EIR and covered by the Draft EIR specifies 1,000 cars.

Comment 44: A statement on the willingness to bond this project should be included in the EIR.

Response 44: Add the following to the Draft EIR, Vol. 1, p. 133, Mitigation Measures:

"J. INCLUSION OF PARK

"The developer agrees that the Conditional Use Permit is contingent on the park's being completed within 36 months after the first opening of any commercial space. This assurance could be in the form of posting a completion bond or some other guarantee satisfactory to the Planning Commission, subject to verification of potential exclusion of long-term lease areas."

Comment 45: According to the Department of Public Works study of April [1976], there are 9,580 parking places in the project area. Another 1,000-car garage is unnecessary. Some of the garages are not fully occupied.

Response 45: According to Scott Shoaf of the Department of Public Works, the study, conducted in the summer of 1975, included about 6,400 on- and off-street parking spaces north of Bay Street, both public and private, and an additional 500 on-street spaces south of Bay. The study extended from Van Ness Avenue east to the Embarcadero. See also Responses Nos. 15, 16, and 24.

Comment 46: The Fisherman's Wharf area would suffer economically from the proposed development.

Response 46: The project could affect businesses within the Fisherman's Wharf area. See Draft EIR, Vol. 1, pages 113-118. Add to the end of subsection 1, p. 118: "A recent economic analysis¹ states:

'The amount of retail space (67,000 square feet) proposed for the site could be reasonably supported given that the proposed project is able to achieve a distinctive market identity. We feel that the project, as currently conceived, should be able to achieve such an identity. The planned retail space would likely compete with existing retail shops at Fisherman's Wharf, The Cannery and Ghirardelli Square. However, the project is also likely to generate new demand of its own. This coupled with the increase in specialty retail demand projected in the Northern Waterfront, should minimize any loss of retail sales of these existing complexes. The development of a significant amount of retail space on Piers 37-41 would probably preclude any large retail complex on Pier 45, and vice versa.

'In order to support the restaurant space proposed for the site, it would require a large portion of the demand for new restaurants projected for the entire Northern Waterfront be concentrated at Piers 37-41. Without the substantial increase of additional demand brought on by new projects, the proposed restaurants would probably eliminate any other significant restaurant development potential along the Northern waterfront for ten years. In the event that all the restaurant space proposed is actually built, it may take as long as 8 to 10 years for it to attain realistic business volumes. Obviously, the developer/lessees phasing program would reflect such marketing phasing if extreme financial risk is to be avoided.

'The restaurant complex at Piers 37-41 would provide substantial competition for existing restaurants in the area and, even in view of the new demand generated by this project, business at existing facilities may decline because of this development. Since business volumes at existing competitive facilities are so high currently, this competitive market adjustment should not be harmful to the overall business

¹Williams-Kuebelbeck and Associates, Inc., Economic analysis: Northern Waterfront planning program, prepared for the San Francisco Department of City Planning. Redwood City, July 16, 1976.

health of the area. As a matter of fact, the development of this project might even create an improvement in the efficiency and service of existing businesses due to this added competition.'"

Comment 47: Will construction of this project coincide with the construction of the North Shore Outfalls Consolidation?

Response 47: See Response No. 35.

Isaac Zambrini, 1000 Green Street

Comment 48: The Port of San Francisco should concentrate on attracting additional shipping to the waterfront.

Response 48: Draft EIR, Vol. 1, p. 23: "Under the Port's Master Plan....the project area is designated for nonmaritime development."

Richard Gryziec, 741 North Point, San Francisco

Comment 49: There is not enough information in the EIR about project financing, in particular the breakwater.

Response 49: See Response No. 39.

Comment 50: ". . .this EIR calculates only the financial income to the City; it very inadequately calculates the total cost of public services."

Response 50: 1. Police: See Draft EIR, Vol. 1, p. 102: \$108,000 per year.

2. Fire: The Fire Department does not contemplate adding any manpower or equipment as a result of the proposed project.

3. Relocation of streets, tracks, utilities: See Response No. 8.

4. Traffic control: Stop signs cost \$50 each; signalization of intersections costs about \$25,000. The total cost would depend on the final Embarcadero configuration and method of traffic control selected.

Comment 51: The EIR should assume auto and transit use at present level and measure the project's impacts on that basis. New transit systems should be placed under Mitigation Measures. The peak load should be estimated at 20 to 25 percent of the total load. The traffic measurements were made at the wrong locations in the area.

Response 51: a) See Response No. 6.

b) Contemplated transit improvements are independent of the proposed project.

c) Peak loads and measurement locations were based on actual counts conducted by the City of San Francisco, and projections are based on actual conditions.

Comment 52: "The land next to the pier is just old fill. It is expected that in a seismic event it will flow sideways and....the pier is likely to be separated from the land."

Response 52: The land adjacent to the piers is sand fill material retained by a rock fill seawall overlying Bay mud deposits. In the event of a major earthquake, the sand fill is susceptible to liquefaction: the soil behaves as a liquid and flows downslope if not constrained. At this location, the seawall will prevent major slumping of the sand fill into the Bay unless the earthquake is of sufficient severity to cause the seawall itself to fail. The underlying Bay mud is susceptible to liquefaction, but in a major earthquake there could be some slumping into the Bay. In all cases, it is unlikely that the ground failure would be of sufficient magnitude to separate the pier from the land. The most likely effects of a major earthquake on the landward side would be ground fissures, displacements, and undulations. The project engineers recommend that these conditions be provided for in the engineering design and construction of the foundations, superstructures, and utilities.

Comment 53: A fire on Pier 39 would be disastrous. Waterfront fires are very hot and intense; sprinkler systems do not stop electrical fires or grease fires, which are common in restaurant kitchens. Such a fire at the land/pier intersection would not allow people to escape from the pier.

Response 53: See Response No. 29.

Comment 54: There are marina sites along the San Francisco waterfront that are cheaper to build, more accessible, and have ample parking space.

Response 54: Marinas could be developed in the following areas along the San Francisco waterfront:

1. Presidio shoreline: This area is within the jurisdiction of the Golden Gate National Recreation Area, for which a master plan is currently being prepared.
2. Aquatic Park: The basin between the Municipal Pier and they Hyde Street Pier could be developed as a marina; however, provision of parking and vehicular access would be difficult in this congested area.
3. Ferry Building area and Pier 34 through Pier 46A area: A master plan is now being prepared by the Department of City Planning for these areas. The Port has indicated, however, that it intends to reserve these areas for future maritime shipping needs.
4. Central Basin and India Basin (northern shore of Hunters Point): Marinas could be developed at these locations in conjunction with public parks. This would conform with the BCDC Special Area Plan.

Comment 55: Sports fishing craft would fit within the future breakwater west of Pier 45; the proposed project would impose a financial hardship on this berthing space.

Response 55: According to a recent economic analysis,¹ "the Northern Waterfront provides an extremely attractive location for a recreation marina for the following reasons:

- a. San Francisco has a large and well-to-do working population which makes a marina site in San Francisco more attractive to non-residents.
- b. Centralized location in the market area.
- c. Proximity to yacht racing areas.
- d. Attractiveness of the surrounding City.
- e. Proximity to prime fishing grounds.

¹Williams-Kuebelbeck and Associates, Inc., Economic analysis: Northern Waterfront planning program, prepared for the San Francisco Department of City Planning. Redwood City, July 16, 1976.

TABLE 8

COMPARISON OF ESTIMATED DEMAND AND SUPPLY
OF MARINA MARKET AREA BERTHS 1975 - 1990

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
Estimated Demand for Market Area Berths	6,099	7,289	8,600	9,984
Total Estimated Supply of Marina Market Berths	<u>4,991</u>	<u>6,248</u>	<u>6,613</u>	<u>7,228</u>
Excess (Deficit) Demand	1,108	1,168	2,114	2,883
Estimated Demand at Fisherman's Wharf ¹	443	467	846	1,153

¹Based on assumption that the Fisherman's Wharf area could capture 40 percent of excess demand in marina market area.

Source: Williams-Kuebelbeck and Associates, Inc., Feasibility Study for a Small Craft Harbor at Fisherman's Wharf, April 1976.

"Estimates of current boat slip demand in the market area (San Francisco, San Mateo, Santa Clara and Marin Counties) shows that there is a current excess demand for 1,108 slips, increasing slightly by 1980, and growing to 2,114 berths by 1985 (Table 8). In view of the locational characteristics listed above, it is reasonable to assume that 40 percent of this 'excess demand' could be captured by a new recreational boat marina located on the Northern Waterfront. To meet this demand, 443 berths would be currently needed; 467 berths would be needed by 1980; and 846 berths would be required by 1985.

"The California Department of Navigation and Ocean Development recommends that 2.5 percent of all berths at a marina should be devoted to transient berths. Discussion with marina authorities in the San Francisco area indicates that 40 to 50 berths would be sufficient to accommodate most peak time transient demand along the Northern Waterfront.

"Currently only seven tour boats are operating along the Northern Waterfront. The operators of these boats foresee no future increase in the number of boats operating as tour boats.

". . .The [project] site, from a market viewpoint, would be an excellent location for a recreational boat marina and the 300 berths could be fully occupied within one to two years after construction."

The projected 350 berths at Pier 45 (U.S. Army Corps of Engineers breakwater) and roughly 250 pleasure craft and 60 sport-fishing berths at Pier 41 would exceed the demand estimated in the above through 1980; however, the demand projected for 1985 would exceed the space provided by both proposed projects by about 200 berths.

The Corps of Engineers' Fisherman's Wharf breakwater project (between Pier 45 and the Hyde Street Pier) has not yet been authorized by Congress. It is anticipated by the Corps that, based on no delay in appropriation of funds, construction could not begin before late 1980 or 1981 and could be completed by 1983.

According to the Corps, based on projections by the Mayor's Citizens Committee for the Preservation and Beautification of the Fisherman's Wharf Area, 500 additional berths could be filled by commercial and sport fishing vessels; the Corps project could supply only 350 berths for commercial vessels and historic ships due to limited space for new berthing areas near Fisherman's Wharf.

Comment 56: ". . .in the description of the Alternate Plan I devised, North Point Playfield and Esplanade, the EIR omits several key points. . . "

a) San Francisco Recreation and Parks Department has over \$35 million available for operation and maintenance.

b) Loss of Seawall Lots 311 and 312 will mean that there will be no remaining site in this part of the city for any playfield.

Response 56: a) See Draft EIR, Vol. 1, pages 142-143.

b) See Responses Nos. 97 and 98.

Comment 57: The EIR fails to analyze water pollution and damage to boats caused by effluent from a nearby outfall.

Response 57: Draft EIR, Vol. 1, pages 52 and 85, show both present and projected levels of dissolved oxygen (DO), a commonly-used criterion of water pollution. The higher the DO level, the less the water is polluted. DO levels of 5 mg/l or more are required by the Regional Water Quality Control Board; even during wet weather, when pollution can be expected to increase, DO levels would be higher than the Board's requirements. It is expected that when wastewater is transferred to the future Southeast plant for treatment, the DO levels, and hence the purity of the water in the project area, will increase. The circulation of tidal water in San Francisco Bay dilutes the pollutant content of water reaching the project area. Since the water meets the Water Quality Control Board's DO standards, it is not expected to damage boats.

Comment 58: The description of the project's conformance with the BCDC plan for this area is inaccurate.

Response 58: Draft EIR, Vol. 1, p. 29, final paragraph, sentence 2, should read: "The 200,000 square feet of commercial development would be more than incidental to park and open space use; therefore, it would conflict with the BCDC Plan."

Winnifred McCarthy, Apartment House Association Consolidated

Comment 59: Addressed the proposed project rather than the Draft EIR.

Response 59: No response.

Robert Berner, Foundation for San Francisco's Architectural Heritage

Comment 60: The pier fronts should be kept to preserve the sense of history and integral look of the Embarcadero.

Response 60: The two pier fronts that would be removed, 39 and 41, are considered by the developer to be incompatible with the overall design of the project. In addition, they would obscure views of the Bay and thus would not conform with the Northern Waterfront Plan.

Comment 61: It would be appropriate to add a rendering of the project from the south.

Response 61: Figure 10b, page 15b, is a south elevation of the project. See also Responses Nos. 12 and 30.

Steve Wyker, San Francisco Junior Chamber of Commerce

Comment 62: Addressed the proposed project rather than the Draft EIR.

Response 62: No response.

Hugh William Griffith

Comment 63: Addressed the proposed project rather than the Draft EIR.

Response 63: No response.

Betty Rader, Telegraph Hill Dwellers Environment Committee

Comment 64: The marina would be a health hazard because the water is polluted.

Response 64: See Response No. 57.

Comment 65: The project area would be very noisy because of helicopters.

Response 65: When noise levels were measured (Draft EIR, Vol. 1, p. 55), peak levels were caused by helicopters at a location about three blocks west of Pier 39, the focus of activity in the proposed project. Helicopter noise did not dominate at the measurement points closer to the project site. Because the developer has no intention of furnishing helicopter facilities, no additional helicopter noise is anticipated.

Comment 66: The marina is not consistent with the BCDC plan.

Response 66: See Response No. 58.

Comment 67: This is an unsafe location for a marina because of possible small boat-large ship conflicts.

Response 67: There are currently hundreds of small boats in the Bay; the number added by the project would be small because most would be boats now sailing the Bay but berthed elsewhere. Few boat-ship accidents are known to have occurred, and Charles Vickers, Chief Engineer of the Port of San Francisco, believes the likelihood of such accidents from project-berthed boats to be low.

Comment 68: "The traffic analysis does not discuss the streets which must be entered before one gets to the streets around the garage."

Response 68: See Draft EIR, Vol. 1, pages 104-109.

Comment 69: The impact of the sewer work involved in the North Shore Outfalls Consolidation Project in conjunction with the impact of the proposed project has not been considered.

Response 69: See Response No. 35.

Comment 70: Air pollution is high in the project area.

Response 70: See Responses Nos. 82 through 84.

Comment 71: It is doubted that the proposed project will generate enough income to produce adequate revenue to the City.

Response 71: Present annual income to the City from this property is \$68,000. The proposed project would increase this to nearly \$2 million. Park use would generate no income, and lower-intensity development would generate less income than the proposed project. Income to the City from the project is expected to increase for the following reasons:

Port of San Francisco records for 1965 to 1975 showed an average annual increase in total sales of 11 percent for major Fisherman's Wharf restaurant operators, despite the opening and expansion of Ghirardelli Square and the opening of the Cannery. A survey of eight West Coast clustered commercial recreation areas showed that for the majority the sales trend has been upward. Other records show that the average volume of waterfront, marina-oriented competing restaurants was approaching \$6,000 to \$8,000 per seat which would result in one to two million dollars for a 200-seat restaurant.

A 1975 study by Arthur D. Little, Inc., indicates that the number of visitors to San Francisco will continue to increase, and that the northern waterfront will be a major focus of attraction. Visitor activity not accommodated in new facilities may ultimately change the existing activity patterns as overcrowding and price difficulties drive away customers (Draft EIR, Vol. 2, Appendix L).

Comment 72: The Burton Act does not say that non-maritime development yields a maximum financial return, but that land not used for other, specified uses, may be for such development and use as the Commission finds to be in the public interest.

Response 72: See Response No. 37.

C. LETTERS RECEIVED BY THE SAN FRANCISCO DEPARTMENT OF CITY PLANNING

Lieutenant Commander J. L. Hair, Assistant Chief, Marine Environmental Protection Branch, U. S. Coast Guard, July 9, 1976

Comment 73: The Federal Water Pollution Control Act prohibits the discharge of oil into waters of the U. S. but does not provide for handling and disposal of routine bilge and engine oil wastes from vessels. It is not known what, if any, facilities have been provided for oily waste reception at the project.

Response 73: The developer would provide protected containers for disposal of oily wastes at locations near the boat berths.

B. C. Bachtold, Deputy District Director, California Department of Transportation, July 9, 1976

Comment 74: The Draft EIR is considered adequate insofar as functions and responsibilities of the Department of Transportation are concerned.

Response 74: No response.

Jean F. Kortum, Landmarks Advisory Board, July 17, 1976

Comment 75: The Draft EIR, Pages 33, 36, and 37, and Figures 14 and 15, refer to the "old" seawall of 1869; yet there is no evidence that this seawall was ever built in this area.

Response 75: Draft EIR, Vol. 1, is amended to read as follows:
Page 33, "a. Historical Development.

"The seawall along this part of the waterfront was built in the early 1880s. It has been suggested that construction of an earlier seawall was begun in 1869, but its presence at this location has not been substantiated. Figure 14 shows the approximate locations of the 1852 shoreline, the suggested 1869 seawall, and the back of the bulkhead, or present seawall line. Figure 15 shows the position of the present seawall with respect to the Embarcadero. Again, an estimated location of the suggested 1869 seawall is indicated."

Page 34, Figure 14: 1869 seawall caption is corrected to read: "Suggested approximate location of 1869 seawall, based on limited data."

Page 36, paragraph 1: "The site and nearby areas are underlain by 25 to 35 feet of fill, consisting mainly of fine- to medium-grained sands, with occasional rock fragments and rock or rubble fills. "

Page 37, c. Stratigraphy. Sentences 4 and 5 are changed to read: "On the landward side of the project area the surficial deposits consist of artificial fill including fine- to medium-grained sands and rock/rubble fragments."

Comment 76: The language should be modified on Page 94 under historic resources to bring it into conformity with the language on Page 67, which states that this area was one of recent fill and it is therefore unlikely that any historic maritime artifacts will be found.

Response 76: Draft EIR, Vol. 1, p. 94, Section 2, is amended to read:

"2. Historic and Archaeological Resources
The Eagle Cafe would be demolished or relocated within the proposed project."

See also Responses Nos. 10 and 11.

James J. Finn, Director of Transportation, Public Utilities Commission, City and County of San Francisco, July 27, 1976

Comment 77: The Powell-Mason cable car line should be shown on Exhibit F-D, Draft EIR, Vol. 2, page 78.

Response 77: The Powell-Mason cable car line is added to this exhibit.

Comment 78: "The report mentions route alterations currently under consideration by the Municipal Railway and Department of City Planning. Included in this analysis is the examination of possible transit priority measures. Particular attention is being given to Jefferson Street between the Embarcadero and Hyde and Beach Street between Polk and Hyde. These are two basic reasons for the current examination of possible transit priority techniques.

" - During peak periods transit operations on portions of Jefferson and Beach Streets are at critical levels due to overall traffic congestion. This situation will likely deteriorate as further developments take place in the area. Any improvement to transit operations in addition to passenger amenities such as improved boarding facilities should include at least a basic attempt to provide improved transit operations.

" - The anticipated increase in transit patronage would probably necessitate increased operating costs. Transit priority treatment is one method of providing improved transit while at the same time being the costs of the improvements to a minimum. The nature of the treatment determines the extent to which the minimization would occur. Priority treatment involving exclusive or semi-exclusive transit rights-of-ways would have a much greater impact than a simple strip of paint separating transit from auto traffic. The most effective treatment could be establishment of a transit/pedestrian mall on Jefferson Street."

Response 78: The above comment is added to the Draft EIR, vol. 2, p. 108, after paragraph 2.

Comment 79: "The report cites two types of mitigating measures designed to reduce the vehicular traffic demand - the establishment of a car[free] zone along the Embarcadero and Jefferson, and the upgrading of public transit access to and within the Wharf area. Some thought should be given to how these two measures can be consolidated by means of the establishment of a transit pedestrian mall."

Response 79: Establishment of a transit-pedestrian mall would introduce new factors not involved in separate pedestrian mall and transit improvements. In a combined facility, safety is a prime consideration, since the potential for conflicts between large vehicles and pedestrians is great; however, the concept has been successfully developed elsewhere. Transit vehicles in a pedestrian mall would also have a negative aesthetic and noise impact. Finally, careful consideration of the interaction of transit vehicles and auto traffic at exit points from the mall would be necessary.

Comment 80: "The report states that the negative impacts on the transit system resulting from the proposed project would be increased operating costs created by an improved transit level of service. Although an extension of the Powell and Mason Cable Car line to Jefferson Street can be considered an improved level of service, it should be pointed out that the line, in terms of vehicles in service and peak patronage per vehicle, is already at capacity.

"With regard to raising the fare of the cable cars to 50¢ it should be pointed out that Section 3.595 of the City Charter prohibits the charging of Cable Car fares at a rate higher than that of other local transit services."

Response 80: The above comments are added to the Draft EIR, Volume 2, p. 120, after paragraph 1.

William G. Kirkham, Management Systems Officer, State Clearinghouse, July 28, 1976

Comment 81: State Clearinghouse review has been completed, and there were no comments.

Response 81: No response.

Milton Feldstein, Deputy Air Pollution Control Officer, Bay Area Air Pollution Control District, July 28, 1976

Comment 82: It would be relevant to calculate carbon monoxide concentrations along certain heavily traveled streets and major intersections that will be impacted by project-related traffic, even if they are not immediately adjacent to the site (e.g., Jefferson-Taylor).

Response 82: The carbon monoxide (CO) analysis was prepared for the Embarcadero and Beach Street because they would be most affected by the project traffic and would have the highest traffic volumes in the immediate vicinity. The traffic impact analysis did not extend to the Jefferson-Taylor intersection, so that detailed analysis of CO levels is not possible. Impacts at this distance from the project site would be smaller than at the Embarcadero or Beach Street; however, heavy pedestrian movements would restrict traffic flow and increase idling times.

Comment 83: Additional carbon monoxide calculations would be important if any affected streets are of a residential nature.

Response 83: Several streets receiving impact from the project are residential in nature (Draft EIR, Vol. 1, p. 62). These streets all have traffic levels, and therefore CO levels, below the streets analyzed. The analysis showed that CO levels were below the Federal standards.

Comment 84: Does Table 10, Draft EIR, Vol. 1, p. 107, take into account other possible future projects that would also contribute to the traffic load on the affected streets?

Response 84: Traffic projections with and without the project for 1985 include a 10 percent increase in traffic volume over 1975 values. This would account for traffic generated by future projects and traffic growth trends. Allowance has not been made for temporary diversion of traffic during construction. During construction of the North Shore Outfalls Consolidation Project, several lanes of traffic on North Point Street would be diverted for six months along 500-foot segments of the street. See also Response No. 35.

Comment 85: The assumption of an average one-way trip length of five miles may be optimistic.

Response 85: The five-mile average one-way trip length appears to be low, but is based on information on trip origins gathered during interviews of northern waterfront pedestrians (DEIR, Volume 2, p. 79). Many project patrons are assumed to be beginning their trips from hotels and motels in San Francisco, close to the site, resulting in a lower than normal average trip length.

Margheritta Stagnaro, 1869 Stockton Street, San Francisco, July 28, 1976

Comment 86: We would appreciate the project's being evaluated as to the impact on traffic flow.

Response 86: The traffic consultants, the California Department of Transportation, the City Traffic Engineer, and other specialists have evaluated traffic impacts and the treatment is believed to be adequate. See Draft EIR, Vol. 1, Sections III.B.4 and V.H; Vol. 2, Appendix F.

Comment 87: Would vibration from trucks crack plaster walls?

Response 87: Construction vehicles would be the only heavy vehicle traffic generated by the project and would increase noise and vibration along the affected traffic corridors. While these trucks would induce vibration in buildings, this type of activity has not been found to be severe enough to damage buildings. Structural damage is frequently caused by differential settling, earthquakes, and other non-acoustic effects (information furnished by Charles Salter, acoustics engineer, August 19, 1976).

Robert Katz, Telegraph Hill Dwellers, July 30, 1976

Comment 88: How many additional people would be attracted by the proposed project per year?

Response 88: See Response No. 42.

Comment 89: What would happen if massive sewer construction were to take place on North Point Street and the Embarcadero at the same time the proposed project would be built?

Response 89: See Response No. 35.

Comment 90: The completed EIR should contain a definite statement as to whether helicopters would be allowed or forbidden by the proposed development.

Response 90: See Response 65:

Charles R. Roberts, Executive Director, San Francisco Bay Conservation and Development Commission, August 13, 1976

Comment 91: "The inconsistencies of the project with the BCDC Special Area Plan for the San Francisco Waterfront have been well documented in previous staff letters and meetings. While these inconsistencies remain, the proposed users appear to be generally consistent with the McAteer-Petris Act."

Response 91: See also Response No. 58.

Comment 92: "In a letter to us dated January 14, 1976, the developer, W. L. Simmons, indicated that the amount of new fill in the project was to be 71,200 square feet and that 249,800 square feet of fill would be removed. This information should be in the final EIR, perhaps in the form of a table. The table could indicate what portions of the fill to be removed are attributable to the removal of Piers 37 and 41, respectively. The figure for new fill should be broken down into the areas attributable to the fixed and floating breakwaters, to the small boat berths and marina facilities, and to additions to Pier 39. For instance, the pedestrian walkway around Pier 39 is shown to be about 4 feet lower than the present deck level of the pier (page 9). Will the pier have to be widened over the Bay in order to accommodate this walkway?"

Response 92: Draft EIR, Vol. 1, p. 22, add:

"Fill removed:

Pier 37	179,800 square feet
Pier 41	<u>132,500</u>
Total removed	312,300 square feet

Fill added:

Pier 39	110,000 square feet
Pier 41: fixed breakwater	30,000
floating breakwaters	59,500
small boat berths & marina	<u>50,000</u>

Total added	249,500 square feet
-------------	---------------------

Net fill removed:	62,800 square feet
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"Pier 39 will be widened over the Bay in order to accommodate the pedestrian walkway; this widening is included in the 110,000 square feet itemized above."

Comment 93: "Page 78 of the report indicates that the piers within the project site are nearly 70 years old and were designed with a load capacity of 500 pounds per square foot. While the project will only require less than half of this capacity will Pier 39 still be capable of sustaining loads up to this capacity? If not, what is its current estimated load capacity? Further, will any reconstruction of the existing piers be required? If so, what would be the impacts of any such reconstruction?"

Response 93: The current load capacity of Pier 39 is 500 pounds per square foot. No reconstruction of existing piers will be required.

Comment 94: "The section of the report discussing the 'people mover' system should indicate whether it will be free or fee. If there is to be a fee, what is it likely to be? Are there possible conflicts between public access use and the people mover system along the pier periphery? What will be the width of the pedestrian walkway?"

Response 94: The people mover will be free. See Response No. 9 about pedestrian/people mover conflicts. The entire walkway would be 24 feet wide, within which the people mover would have an eight-foot lane.

Comment 95: "According to the EIR, development of the proposed project is no longer planned for staged construction in two phases. Yet final completion of the project would depend primarily on tenant demand (page 22). What aspects of the project are likely to be left out if tenant demand is insufficient? What effect will this have on development and maintenance of the park and other public amenities which are to be done at the developer's expense? The discussion of parking structure alternatives on page 147-148 indicates that the commercial recreation area is expected to support the cost of the 5-acre park and if it were to be reduced in size, partial or total public funding of the park might become necessary to make up development and maintenance costs. How will development and maintenance of the park and the other amenities be guaranteed and for what period of time, especially if tenant demand does not warrant final completion of the project?"

Response 95: Regarding phased construction, see Responses Nos. 26, 27, and 28. If tenant demand were insufficient, part of the commercial recreation area would be omitted. The size of the park could be reduced; no other effects are anticipated by the developer. It is possible through the Conditional Use application to require a bond of sufficient security to cover the cost of the project and the park and other amenities, or of such an amount to provide for maintenance of the park and other amenities over a specified period of time. See also Responses 28 and 44.

Comment 96: "The general guidelines for development in Appendix B, recommend a variety of features and spaces in the design of North Point Park to accommodate active and passive recreation for children and adults. What would be the feasibility of including lawn areas in the waterfront park in addition to the cobblestone plazas planned for strolling and sitting? The report should also clarify how the public park itself would be designed to minimize the predicted wind levels."

Response 96: Most of the park area overlying earth fill would contain usable lawns and plants not in containers. The pedestrian circulation areas and the portions of the park over concrete would have plants in containers. About 40 percent of a 5½-acre park would consist of lawn area.

Plants could be varieties that remain viable assuming required maintenance, and the Department of City Planning's "street-tree planting plan for the Northern Waterfront" would be used as a general guide. Final landscaping plans would be developed in consultation with the Park Engineering Division of the Department of Public Works and the Department of City Planning; and would include provisions for planting within the pier area as well as the park.

It is planned to reduce wind and enhance pedestrian comfort by using:

- Building layout and orientation and roof design on Pier 39 for maximum sunlight and wind shelter.
- Wind barriers, earth mounding, depressed seating areas, and groupings of plants.
- Trees 2 to 4 inches in diameter and 12 to 20 feet high, combined with appropriate shrubs, to reduce wind velocity in pedestrian-gathering areas.

Comment 97: "The discussion of the Public Open Space Alternative (Draft EIR, Vol. 1, p. 140) should note that this alternative, as it is described in the report, would be entirely consistent with Special Area Plan No. 1 and, in fact, this concept can be described as one means of implementing the Special Area Plan in this area."

Response 97: "Draft EIR, Vol. 1, p. 140, under Subsection E, add to the end of paragraph 1:

"This alternative would be entirely consistent with BCDC Special Area Plan No. 1 and would be one means of implementing the Special Area Plan at this location."

Comment 98: "While it is true that, as stated on page 142, use of the North Point Area for park and open space would not generate port revenue, it should also be noted that under Special Area Plan No. 1 the issue of port revenue was addressed in a systematic manner and that major revenue was anticipated from development of the Ferry Building area and Pier 45. The North Point area was never considered to be an area of potential revenue for the port, with the exception of the adjacent seawall lots and the possibility of a hotel in connection with a modernized passenger terminal."

Response 98: Add to Draft EIR, Vol. 1, p. 143, at the end of Section E: "It should be noted that the North Point area was never considered by the BCDC to be an area of potential revenue for the Port, with the exception of the adjacent seawall lots and the possibility of a hotel in connection with a modernized passenger terminal."

Comment 99: "The report states on page 141 that Mr. Gryziec, Architect/Planner, suggests that BCDC has found that a marina in this location would not be economical. While it is possible that a member of the staff may have made such a comment, it is not a Commission position. It would be appropriate to leave this phrase in the final EIR."

Response 99: Draft EIR, Vol. 1, p. 141, last paragraph, should read: "If a public marina were installed, the funds could come from the State Department of Navigation and Ocean Development; however, Mr. Gryziec suggests that this is an inappropriate site for a marina."

Comment 100: "With regard to the threat from tsunami, our staff engineer recommends the use of more recent information: "Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound," by A. W. Garcia and J. R. Houston, U.S. Army Engineer Waterways Experiment Station, November, 1975."

Response 100: See Response No. 14, paragraphs 5 and 6.

D. ADDITIONAL WRITTEN COMMENTS

Department of the Army, San Francisco District, Corps of Engineers, Public Notice No. 10745-48 dated 13 August 1976

Comment 101: "In accordance with the requirements of the National Environmental Policy Act of 1969 (Public Law 91-190), the Corps of Engineers has made a preliminary assessment of the environmental, engineering, economic, and social aspects of the proposed activity, and determined that an Environmental Impact Statement (EIS) will be necessary."

Response 101: Draft EIR, Vol. 1, page 30: the following sentence is added to the end of paragraph 3: "The San Francisco District of the Corps of Engineers has determined that an environmental impact statement will have to be prepared for the proposed project."

SAN FRANCISCO
CITY PLANNING COMMISSION
RESOLUTION NO. 7543

WHEREAS, A draft environmental impact report has been prepared by the Department of City Planning in connection with EE75.368, Proposed North Point Park Marina, including 133,000 square feet of restaurant space, 67,000 square feet of commercial space, a 250-berth boat marina, 40 sport-fishing berths, a 1000-car parking garage, and a park, on the property described as follows:

Piers 37, 39 and 41, San Francisco Waterfront;

and

WHEREAS, The Department duly filed a notice of completion of the draft report with the Secretary of the California Resources Agency, gave other notice and requested comments as required by law, made the report available to the general public and satisfied other procedural requirements; and

WHEREAS, The City Planning Commission held a duly advertised public hearing on said draft environmental impact report on July 29, 1976, at which opportunity was given for public participation and comments; and

WHEREAS, A final environmental impact report, dated August 26, 1976, has been prepared by the Department, based upon the draft environmental impact report, any consultations and comments received during the review process, any additional information that became available, and a response to any comments that raised significant points concerning effects on the environment, all as required by law; and

WHEREAS, On August 26, 1976, the Commission reviewed the final environmental impact report, and found that the contents of said report and the procedures through which it was prepared, publicized and reviewed comply with the provisions of the California Environmental Quality Act, the Guidelines of the Secretary for Resources and San Francisco requirements; and

WHEREAS, The final environmental impact report identifies traffic congestion as a major impact of the project; and

WHEREAS, The project would provide economic benefits to the City, as well as providing public services including sport-fishing and pleasure marinas, a landscaped and fully-maintained park, and public access to the water at Piers 39 and 41;

THEREFORE BE IT RESOLVED, That the City Planning Commission does hereby find that the Final Environmental Impact Report, dated August 26, 1976, concerning EE75.368, Proposed North Point Park Marina, is adequate, accurate and objective, and does hereby CERTIFY THE COMPLETION of said Report in compliance with the California Environmental Quality Act and the State Guidelines;

AND BE IT FURTHER RESOLVED, That the Commission in certifying the completion of said Report does hereby find that the project as proposed will have a significant effect on the environment;

AND BE IT FURTHER RESOLVED, That the Commission, before acting on the project itself under ZM76.13 and CU76.8, and before acting on proposed amendments to the Northern Waterfront Plan, does hereby certify that it has reviewed and considered the information contained in said Final Environmental Impact Report;

AND BE IT FURTHER RESOLVED, That the Commission, before acting on the project itself under ZM76.13 and CU76.8, and before acting on the related amendments to the Northern Waterfront Plan, does hereby find, based upon the material contained in the final environmental impact report, and without prejudging its actions on the project itself, that the economic benefits and public services, including the marinas, park and public access to the water, that the project would provide, and the mitigation measures which could be required for the project to reduce its impacts, would act as overriding considerations to permit approval of the project in spite of its significant effect on the environment.

I hereby certify that the foregoing Resolution was ADOPTED by the City Planning Commission at its regular meeting of August 26, 1976.



Lynn E. Pio
Secretary

AYES: Commissioners Bierman, Dearman, Finn, Lau, Miller, Rosenblatt, Starbuck.

NOES: None

ABSENT: None

PASSED: August 26, 1976



100 LARKIN STREET SAN FRANCISCO, CALIFORNIA 94102

FINAL
ENVIRONMENTAL IMPACT REPORT

Proposed North Point Park/Marina
San Francisco, California

EE 75.368

Volume 2
Appendices

Volume 2 has been left out of the Draft Environmental Statement, but it is available for review at the Corps San Francisco District office and at the City's Planning Department office.

Adopted by
San Francisco City Planning Commission
Resolution No. 7548

August 26, 1976

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APPENDIX C

AIR QUALITY

AIR QUALITY

The Clean Air Act amendments of 1970 established controls on the emission of harmful substances into the air. These harmful substances are cumulatively referred to as air pollution. The proposed project would be responsible for air pollutant emissions from construction activities, from the use of berthing facilities which would be allowed by construction of the breakwaters, and from vehicles transporting visitors and employees to and from the site.

The passage of the Air Quality Act of 1967 provided for a national program to control automobile emissions and for support of State and local programs to control air pollution from stationary sources.

U.S. Environmental Protection Agency (EPA). In 1970 the EPA was created to being environmental problems, including air quality deterioration, under the direction of one agency. The 1970 amendments to the Clean Air Act redefine and expand the Federal government's role in air pollution control. The Clean Air Act amendments require that all states submit an implementation plan to the EPA, explaining control strategy which will be used to attain and maintain ambient Air Quality Standards. Elements of these plans must provide for land use and transportation controls, source monitoring, air quality monitoring, and a procedure for review, prior to construction, of the location of new sources of air pollution. These implementation plans once approved by EPA are, in effect, blueprints for achieving and maintaining air quality in all effect, blueprints for achieving and maintaining air quality in all sections of the country (Bay Area Air Pollution Control District, 1975a).

EPA promulgated in the June 18, 1973 Federal Register, regulations (40 CFR 51.12) which require the states to amend their implementation plans to identify (through preliminary analysis) areas in which any national ambient air quality standards may be exceeded during the period 1975-1985. In Revision 5 to the State of California Implementation Plan (SIP) for Achieving and Maintaining the National Ambient Air Quality Standards, dated June 13, 1974, the Air Resources Board (ARB) recommended to the EPA that the San Francisco Bay Area Air Basin be designated as an Air Quality Maintenance Area (AQMA) for the following pollutants: particulate matter, oxidants, and sulfur dioxide. EPA confirmed this designation in the September 9, 1975 Federal Register (40 CFR 52.267).

For each areas designated as an AQMQ, a detailed analysis of the area's future air quality will be performed. If this detailed analysis confirms that a national standard will not be maintained or attained and maintained thereafter in the 1975-1985 time period, a long-term maintenance plan (AQMP) will be developed to insure the achievement

of the air quality standards as soon as is feasible and the continued maintenance of the air quality standards once they have been achieved. If the detailed analysis indicates that an area does not have an attainment and/or maintenance problem it may, upon approval by EPA, be removed from the AQMA designation (EPA, 1975c).

During the summer of 1975, the ARB hosted a meeting of Bay Area decision makers, elected officials, public agencies, business groups, citizens groups, and the public to discuss appropriate means for addressing the problem of long-term air quality standards attainment and maintenance. The result was a consensus to formulate a task force composed of representative from many of the above groups to confirm the need for such a plan, to provide the policy guidance needed for strategy development, to develop a work program for the planning process, and select an appropriate institution(s) to do the planning. This effort commenced in the fall of 1975.

The AQMA Policy Task Force realized, early in its considerations, that it would be necessary to coordinate closely with the Areawide Wastewater Planning effort (208 of the Federal Water Pollution Control Act of 1972) being conducted by the Association of Bay Area Governments (ABAG) under a grant from EPA. In December 1975 and January 1976 the AQMP Policy Task Force passed resolutions which, in effect, combined it with an Environmental Management Task Force (EMTF), which was technically responsible to ABAG while maintaining the joint planning precepts that had led to the formation of the AQMP Policy Task Force. The EMTF is now developing an integrated work program for a planning process which will address Air Quality, Water Quality, and Solid Waste. The EMTF is charied by Supervisor Dianne Feinstein of San Francisco County and is scheduled to complete the Environmental Management Plan within two years. It is quite possible that the results of this planning process will affect decisions relating to future phases of the Fisherman's Wharf improvement project.

The State Air Resources Board (ARB). The State of California led the mation in identifying the association between photochemical smog and automobile exhaust. This knowledge led to a program to control auto exhaust within the state beginning in 1961 under the now-defunct Motor Vehicle Pollution Control Board long before the Federal government entered into the field of auto control. Since the passage of the Air Quality Act in 1967 prompted automotive controls for the Federal government, the State of California has been given waivers, allowing it to conduct its own program for automobiles. This recognized the State's on-going program of automotive controls which was more restrictive than that proposed on the national level.

The unusual meteorological, geographic, and economic character of California has made it relatively easy to testablish such a need. The State program is administered by the ARB in Sacramento. This agency establishes emission standards for any new car sold in California and requires the manufacturers to build propoer controls and to test and certify them (Bay Area Pollution Control District, 1975a).

The Bay Area Air Pollution Control District (BAAPCD). BAAPCD was created by the California Legislature in 1955, the first regional agency dealing with air pollution to be formed in California. The jurisdiction of the BAAPCD is largely limited to policing non-vehicular sources of air pollution within the Bay Area, primarily industry and burning. Recently it was also authorized to cite smoking vehicles, although the main automotive control program is administered through the State. The District encompasses several counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara and portions of Solano and Sonoma. The total land area within its jurisdiction is 5,600 square miles with 4.7 million people and 3 million cars. The District is governed by an eighteen-member Board of Directors. Each county is represented by two members, one selected by the County Board of Supervisors from among their number and a mayor or city councilman selected by the City Selection Committee. The Board has the power to develop and enforce regulations for the control of air pollution within the District. To date the District has enacted eight regulations. Some directly control air pollution by limiting the emissions of specific contaminants. Others indirectly control pollutants by curtailing open burning, necessitating process changes to meet direct controls, or by denying construction permits (BAAPCD, 1975b).

POLLUTANTS CONSIDERED

The primary air pollutants that would to some degree be emitted due to the proposed activity include Carbon Monoxide, Sulfur Oxides, Oxides of Nitrogen, Organic Compounds (primarily Hydrocarbons), and particulate matter.

Carbon monoxide. Because of its origin from the incomplete combustion of organic materials, carbon monoxide (CO) is emitted to the atmosphere in greater quantities than any other urban air pollutant. CO arises primarily from incomplete or inefficient combustion of carbonaceous fuels. Fuel combustion in mobile sources utilizing the internal combustion engine is the principal source of CO (U.S. Department of Health, Education, and Welfare, 1970b).

Sulfur oxides. Sulfur oxides are primarily emitted into the atmosphere due to the heating and burning of fossil fuels such as coal and oil. In areas like London and New York, where large quantities of these fuels are used, sulfur oxides are a major air pollutant. Natural gas shortages for the Bay Area may lead to wider fossil fuel usage in the future and therefore heavier sulfur dioxide concentrations. The largest further oxidizes to form sulfur trioxide, which combines with moisture in the air to form sulfuric acid mist. Both sulfur dioxide and sulfur trioxide can damage vegetation and affect the health of humans and animals (U.S. Department of Health, Education, and Welfare, 1969).

Oxides of Nitrogen. Approximately 80 percent of the air is nitrogen. Whenever burning occurs at high enough temperatures, a certain amount of nitrogen in the air burns as well. Burning is also known as "oxidizing". This is a reaction where a material combines with oxygen in such a way as to release energy in the form of light and heat. The resultant combinations of nitrogen are primarily nitric oxide and nitrogen dioxide. Mixtures of these two compounds are known as oxides of nitrogen and they are involved in photochemical reactions that produce oxidant. Nitrogen dioxide is a gas which can be seen in concentrations on the horizon as a brown haze. On days with otherwise good visibility, the coloration will be noticeable. The degree of visibility reduction depends on the concentration and properties of the pollutant or pollutants involved and on meteorological conditions. Nitrogen dioxide does not display any distinct seasonal patterns in terms of frequency of occurrence, but the brown haze is most visible on the horizon on clear days when a temperature inversion traps the pollutants in the lower layers of the atmosphere.

Photochemical oxidants result from a complex series of atmospheric reactions initiated by sunlight. When reactive organic substances and nitrogen oxides accumulate in the atmosphere and are exposed to the ultraviolet component of sunlight, the formation of new compounds, including ozone and peroxyacyl nitrates, takes place (U.S. Department of Health, Education and Welfare, 1970). Photochemical air pollution or photochemical smog is a relatively new kind of air pollution which we have only recently begun to understand. It results from a chemical reaction which takes place in the atmosphere between NO_2 and reactive organic gases under the influence of sunlight hence the name "photochemical". The significant source of the gases that trigger photochemical smog is the automobile. In the Bay Area, about 61 percent of the reactive organic gases and 46 percent of the nitrogen oxides come from cars and light-duty trucks (BAAPCD), 1975b).

Particulate Matter. Dust, mist, ash, smoke, and fumes are some of the names given to liquid or solid particles found in our atmosphere. Smoke, composed of carbon and other products of incomplete combustion, is the most obvious form of particulate pollution associated with human activity. Some solid materials emitted from industrial sources and automobile exhaust are much more toxic than others. Highly toxic substances such as cadmium, beryllium, and asbestos are associated with specific industries and are of concern only in the vicinity of the source. Lead, however, is an exception. An estimated 10 tons of lead are emitted daily in the Bay Area in automobile exhaust, most of it along freeways and commute arterials throughout the region (BAAPCD, 1975b).

The Effect of Climate on Air Quality. The climate conditions for a given area are the primary factors in determining what happens to air pollutants after they have been released into the atmosphere.

The center of the San Francisco Bay Area is a large, shallow basin, ringed by hills which taper into a series of sheltered valleys. This topography alone gives the area great potential for trapping and accumulating air pollutants. Within this basin, contaminants are emitted at a fairly constant rate throughout the year. Yet the pollution concentrations actually present in the air we breathe fluctuate widely from day to day and from season to season. These variations depend wholly upon the weather.

The global-scale weather strongly affects these local variations. When strong jet-stream winds dominate the air flow above California, or when migratory storms bring rain and upward vertical flow, the air pollution concentrations are generally very low. When high pressure areas dominate California, resulting in light winds and downward vertical flow, heavy build-ups of pollution are common. The amount of air available to dilute pollutants depends primarily on two factors: the horizontal airflow and the vertical mixing. Vertical mixing is severely limited when a layer of warmer air lies above a layer of cooler air. This is a reversal of the atmosphere's normal decrease of temperature with altitude, and is thus called an "inversion layer". The strong inversions typical of California summers are caused by downward vertical motion, called subsidence, which compresses and heats the air. The surface inversions typical of the winter are formed by radiation as air is cooled in contact with the earth's cold surface at night. Both types of inversion mechanisms may operate at any time of the year, and in the autumn both may combine to produce our heaviest pollution. The important effect of temperature inversion is to prevent pollutants from rising and being diluted vertically; inversions trap pollutants in the lower layer of air where most air-breathing life exists.

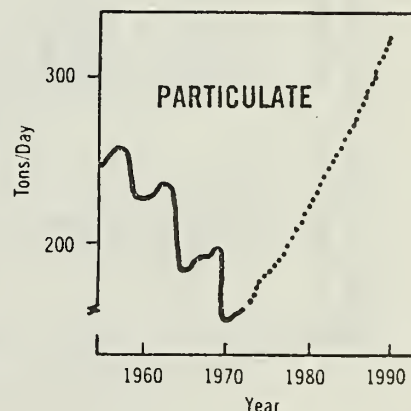
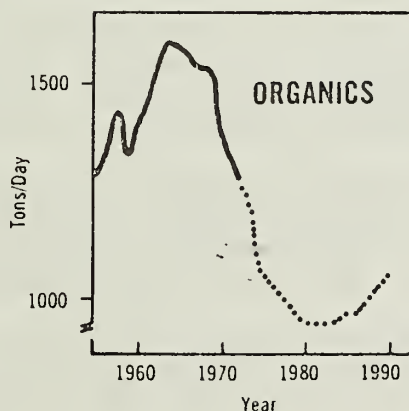
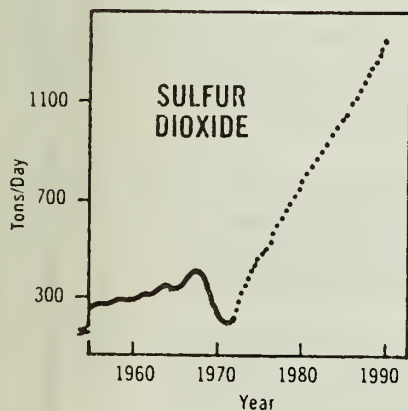
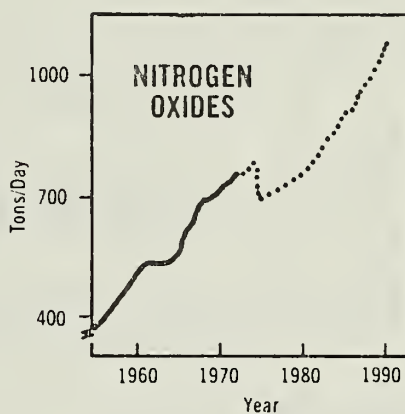
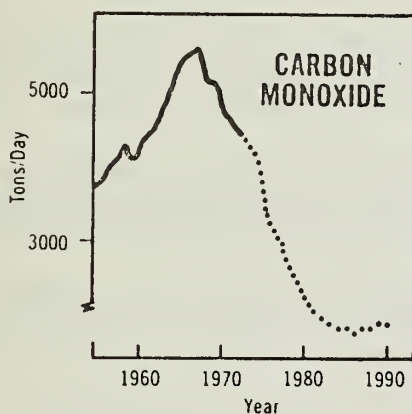
EXISTING CONDITIONS

With a total population of over 4 million and with approximately 3 million automobiles in use, air quality degradation is a significant environmental problem in the San Francisco Bay Area. Due to the location of industry, major transportation networks, and due to climatic conditions, certain areas exhibit more severe conditions than others. Because of the very complicated nature of horizontal and vertical air movement and other climatic conditions, it is not advisable to attempt to simplify the impact that a given project's emissions might have on the local and regional air basins. The proposed project area is situated along the "funnel" that connects areas (the Pacific Ocean and the Central Valley of California) of contrasting high and low pressure and, therefore, is throughout much of the year characterized by relatively good horizontal

air movement. This condition does not, however, mean that the proposed activity would not have a significant effect on the local air quality, and does not explain what effect the emissions might have on the regional air basin. The types of analyses that could be carried out to attempt to predict the impact the proposed activity might have on the total air basin are discussed in the following impacts section of this appendix.

Table C-1 shows the number of days that air quality standards were exceeded for San Francisco from December 1974 through November 1975. San Francisco County in 1973 was responsible for 12 percent of the particulate emissions in the San Francisco Bay Area; 10 percent of the organic emissions; 9 percent of the oxides of nitrogen emissions; 4 percent of the sulfur dioxide emissions; and 9 percent of the carbon monoxide emissions (BAAPCD, 1975a). Plate C-1 shows predicted Bay Area trends in air pollutant emissions through 1990.

SOLID PORTIONS OF THE CURVES REPRESENT HISTORICAL EMISSIONS WHICH HAVE BEEN ADJUSTED SO AS TO BE CONSISTENT WITH THE 1973 BAAPCD SOURCE INVENTORY AND THE LATEST COMPUTATION TECHNIQUES. DOTTED PORTIONS OF THE CURVES INDICATE ESTIMATED EMISSIONS FOR THE FUTURE.



SOURCE: BAAPCD, 1975. "AIR POLLUTION AND THE SAN FRANCISCO BAY AREA."

ENVIRONMENTAL STATEMENT

SAN FRANCISCO

CALIFORNIA

SAN FRANCISCO BAY AREA:
TRENDS IN AIR POLLUTANT
EMISSIONS

U.S. ARMY ENGINEER DIST., SAN FRANCISCO, C OF E
DRAWN: FILE NO.
TRACED: TO ACCOMPANY REPORT
CHECKED: DATED

TABLE C-1

NUMBER OF DAYS STATE AIR QUALITY STANDARDS WERE EXCEEDED
FOR SAN FRANCISCO, CALIFORNIA (DECEMBER 1974 - NOVEMBER 1975)

(POLLUTANT)	OXIDANT (8 ppm for 1 hr)	CARBON MONOXIDE (35 ppm for 1 hr or 9 ppm for 8 hours)	NITROGEN DIOXIDE (25 ppm for 1 hr)	SULFUR DIOXIDE (50 ppm for 1 hr or 10 ppm for 24 hours)	PARTICULATES (100 micrograms/ cubic meter for 24 hours)
(Applicable BAAPCD Standard)					
December 1974	0	0	0	0	0
January 1975	0	1	0	0	1
February 1975	0	0	0	0	0
March 1975	0	0	0	0	0
April 1975	0	0	0	0	0
May 1975	0	0	0	0	0
June 1975	0	0	0	0	0
July 1975	0	0	0	0	0
August 1975	0	0	0	0	0
September 1975	0	0	0	0	1
October 1975	0	1	0	0	0
November 1975	0	0	0	0	0

Source: BAAPCD, Contaminant and Weather Summaries, 1974-1975

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